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(54) Title: NOVEL GENES, COMPOSITIONS, KITS, AND METHODS FOR IDENTIFICATION, ASSESSMENT, PREVENTION, AND THERAPY OF CERVICAL CANCER

(57) Abstract: The invention relates to compositions, kits, and methods for detecting, characterizing, preventing, and treating human cervical cancers. A variety of novel markers are provided, wherein changes in the levels of expression of one or more of the markers is correlated with the presence of cervical cancer.

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NOVEL GENES, COMPOSITIONS, KITS, AND METHODS FOR IDENTIFICATION, ASSESSMENT, PREVENTION, AND THERAPY OF CERVICAL CANCER

RELATED APPLICATIONS

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The present application claims priority to U.S. provisional application serial no. 60/169,681, filed on December 8, 1999, U.S. provisional application serial no. 60/171,350, filed on December 21, 1999, U.S. provisional application serial no. 60/189,315, filed on March 14, 2000, U.S. provisional application serial no. 60/203,791, filed on May 12, 2000, and U.S. provisional application serial no. 60/210,600, filed on June 9, 2000, all of which are expressly incorporated by reference.

FIELD OF THE INVENTION

The field of the invention is cervical cancer, including diagnosis, 15 characterization, management, and therapy of cervical cancer.

BACKGROUND OF THE INVENTION

The increased number of cancer cases reported in the United States, and, indeed, around the world, is a major concern. Currently there are only a handful of treatments available for specific types of cancer, and these provide no absolute guarantee of success. In order to be most effective, these treatments require not only an early detection of the malignancy, but a reliable assessment of the severity of the malignancy.

Cancer of the cervix is one of the most common malignancies in women and remains a significant public health problem throughout the world. In the United States alone, invasive cervical cancer accounts for approximately 19% of all gynecological cancers. In 1996, it is estimated that there will be 14,700 newly diagnosed cases and 4900 deaths attributed to this disease (American Cancer Society, Cancer Facts & Figures 1996, Atlanta, Ga.: American Cancer Society, 1996). In many developing countries, where mass screening programs are not widely available, the clinical problem is more serious. Worldwide, the number of new cases is estimated to be 471,000 with a four-year survival rate of only 40% (Munoz et al., 1989, *Epidemiology of Cervical Cancer* In: "Human Papillomavirus", New York, Oxford Press, pp 9-39; National Institutes of

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Health, Consensus Development Conference Statement on Cervical Cancer, Apr.1-3, 1996).

The precursor to cervical cancer is dysplasia, also known in the art as cervical intraepithelial neoplasia (CIN) or squamous intraepithelial lesions (SIL). While it is not understood how normal cells become transformed, the concept of a continuous spectrum of histopathological change from normal, stratified epithelium through CIN to invasive cancer has been widely accepted for many years. A large body of epidemiological and molecular biological evidence has established human papillomavirus (HPV) infection as a causative factor in cervical cancer. HPV is found in 85% or more of squamous cell invasive lesions, which represent the most common histologic type seen in cervical carcinoma. Additional cofactors have also been identified, including oncogenes that have been activated by point mutations and chromosomal translocations or deletions.

In light of this, cervical cancer remains a highly preventable form of cancer when pre-invasive lesions are detected early. Cytological examination of Papanicolaoustained cervical smears (also referred to as Pap smears) is currently the principle method for detecting cervical cancer. Not surprisingly, the effectiveness of Pap smear screening varies depending not only upon the quality of the sample being used, but also upon subjective parameters that are inherent to the analysis. In addition, despite the historical success of the test, concerns have arisen regarding its ability to reliably predict the behavior of some pre-invasive lesions (Ostor *et al.*, 1993, *Int. J. Gynecol. Pathol.* 12: 186-192; and Genest *et al.*, 1993, *Human Pathol.* 24: 730-736).

It would be therefore be desirable to provide specific methods and reagents for the diagnosis, staging, prognosis, monitoring, and treatment of diseases associated with cervical cancer, or to indicate a predisposition to such for preventative measures.

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SUMMARY OF THE INVENTION

The invention relates to novel genes associated with cervical cancer as well as methods of assessing whether a patient is afflicted with cervical cancer. "Cervical cancer" as used herein includes pre-malignant conditions, e.g., CIN and SIL. The methods of the present invention comprise the step of comparing the level of expression of a novel marker in a patient sample, wherein the marker is listed within Tables 1-4, and the normal level of expression of the marker in a control, e.g., a sample from a

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patient without cervical cancer. A significant difference between the level of expression of the marker in the patient sample and the normal level is an indication that the patient is afflicted with cervical cancer or has a pre-malignant condition (e.g., CIN and/or SIL).

In one method, the marker(s) are preferably selected such that the positive predictive value of the method is at least about 10%. Also preferred are embodiments of the method wherein the marker is differentially-expressed by at least two-fold in at least about 20% of any of the following conditions: stage 0 cervical cancer patients, stage I cervical cancer patients, stage III cervical cancer patients, stage III cervical cancer patients, stage III cervical cancer patients, grade III cervical cancer patients, grade III cervical cancer patients, squamous cell (epidermoid) cervical cancer patients, cervical adenocarcinoma patients, cervical adenosquamous carcinoma patients, small-cell cervical carcinoma patients, malignant cervical cancer patients, patients with primary carcinomas of the cervix, patients with primary malignant lymphomas of the cervix and patients with secondary malignant lymphomas of the cervix, and all other types of cancers, malignancies and transformations associated with the cervix.

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In one embodiment of the methods of the present invention, the sample comprises cells obtained from the patient. The cells may be found in a cervical smear collected, for example, by a cervical brush. In another embodiment, the patient sample is a cervical-associated body fluid. Such fluids include, for example, blood fluids, lymph, ascitic fluids, gynecological fluids, urine, and fluids collected by peritoneal rinsing.

In accordance with the methods of the present invention, the presence and/or level of expression of the marker in a sample can be assessed, for example, by detecting the presence in the sample of:

- a protein corresponding to the marker or a fragment of the protein (e.g. using a reagent, such as an antibody, an antibody derivative, or an antibody fragment, which binds specifically with the protein or a fragment of the protein)
- a metabolite which is produced directly (i.e., catalyzed) or indirectly by a protein corresponding to the marker

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o a transcribed polynucleotide (e.g. an mRNA or a cDNA), or fragment thereof, having at least a portion with which the marker is substantially homologous (e.g. by contacting a mixture of transcribed polynucleotides obtained from the sample with a substrate having one or more of the markers listed within Tables 1-4 fixed thereto at selected positions)

 a transcribed polynucleotide or fragment thereof, wherein the polynucleotide anneals with the marker under stringent hybridization conditions.

The methods of the present invention are particularly useful for identifying patients with a pre-malignant condition such as CIN and/or SIL. The methods are also useful for further diagnosing patients having an identified cervical mass or symptoms associated with cervical cancer. The methods of the present invention can further be of particular use with patients having an enhanced risk of developing cervical cancer (e.g., patients having a familial history of cervical cancer and patients identified as having a mutant oncogene). The methods of the present invention may further be of particular use in monitoring the efficacy of treatment of a cervical cancer patient (e.g. the efficacy of chemotherapy).

The methods of the present invention may be performed using a plurality (e.g. 2, 3, 5, or 10 or more) of markers. According to a method involving a plurality of markers, the level of expression in the sample of each of a plurality of markers independently selected from the markers listed in Tables 1-4 is compared with the normal level of expression of each of the plurality of markers in samples of the same type obtained from control humans not afflicted with cervical cancer. A significantly enhanced level of expression in the sample of one or more of the markers listed in Tables 1-4, or some combination thereof, relative to that marker's corresponding normal levels, is an indication that the patient is afflicted with cervical cancer. The markers of Tables 1-4 may also be used in combination with known cervical cancer markers in the methods of the present invention.

In a preferred method of assessing whether a patient is afflicted with cervical cancer (e.g., new detection ("screening"), detection of recurrence, reflex testing), the method comprises comparing:

- a) the level of expression of a marker in a patient sample, wherein at least one marker is selected from the markers of Tables 1-4, and
- b) the normal level of expression of the marker in a control non-cervical cancer sample.
- A significant difference between the level of expression of the marker in the patient 5 sample and the normal level is an indication that the patient is afflicted with cervical cancer.

The invention further relates to a method of assessing the efficacy of a therapy for inhibiting cervical cancer in a patient. This method comprises comparing: 10

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- a) expression of a marker in a first sample obtained from the patient prior to providing at least a portion of the therapy to the patient, wherein the marker is selected from the group consisting of the markers listed within Tables 1-4, and
- b) expression of the marker in a second sample obtained from the patient following provision of the portion of the therapy.

A significantly lower level of expression of the marker in the second sample, relative to the first sample, is an indication that the therapy is efficacious for inhibiting cervical cancer in the patient.

It will be appreciated that in this method the "therapy" may be any therapy for 20 treating cervical cancer including, but not limited to, chemotherapy, radiation therapy and surgical removal of tissue, e.g., a cervical tumor. Thus, the methods of the invention may be used to evaluate a patient before, during and after therapy, for example, to evaluate the reduction in tumor burden.

The present invention therefore further comprises a method for monitoring the progression of cervical cancer in a patient, the method comprising:

- a) detecting in a patient sample at a first time point, the expression of a marker, wherein the marker is selected from the group consisting of the markers listed in Tables 1-4;
 - b) repeating step a) at a subsequent time point in time; and
- c) comparing the level of expression detected in steps a) and b), and therefrom monitoring the progression of cervical cancer in the patient.

The invention also includes a method of selecting a composition for inhibiting cervical cancer in a patient. This method comprises the steps of:

a) obtaining a sample comprising cancer cells from the patient;

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- b) separately maintaining aliquots of the sample in the presence of a plurality of test compositions;
- c) comparing expression of a marker listed within Tables 1-4 in each of the aliquots; and
- d) selecting one of the test compositions which induces a lower level of expression of the marker in the aliquot containing that test composition, relative to other test compositions.

In addition, the invention includes a method of inhibiting cervical cancer in a patient. This method comprises the steps of:

- a) obtaining a sample comprising cancer cells from the patient;
 - b) separately maintaining aliquots of the sample in the presence of a plurality of test compositions;
 - c) comparing expression of a marker listed within Tables 1-4 in each of the aliquots; and
 - d) administering to the patient at least one of the test compositions which induces a lower level of expression of the marker in the aliquot containing that test composition, relative to other test compositions.

The invention also includes a kit for assessing whether a patient is afflicted with cervical cancer. This kit comprises reagents for assessing expression of a marker listed within Tables 1-4.

In another aspect, the invention relates to a kit for assessing the suitability of each of a plurality of compounds for inhibiting a cervical cancer in a patient. The kit comprises a reagent for assessing expression of a marker listed within Tables 1-4, and may also comprise a plurality of compounds.

In another aspect, the invention relates to a kit for assessing the presence of cervical cancer cells. This kit comprises an antibody, wherein the antibody binds specifically with a protein corresponding to a marker listed within Tables 1-4. The kit may also comprise a plurality of antibodies, wherein the plurality binds specifically with a protein corresponding to a different marker listed within Tables 1-4.

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The invention also includes a kit for assessing the presence of cervical cancer cells, wherein the kit comprises a nucleic acid probe. The probe binds specifically with a transcribed polynucleotide corresponding to a marker listed within Tables 1-4. The kit may also comprise a plurality of probes, wherein each of the probes binds specifically with a transcribed polynucleotide corresponding to a different marker listed within Tables 1-4.

The invention further relates to a method of making an isolated hybridoma which produces an antibody useful for assessing whether a patient is afflicted with cervical cancer. The method comprises isolating a protein or protein fragment corresponding to a marker listed within Tables 1-4, immunizing a mammal using the isolated protein or protein fragment, isolating splenocytes from the immunized mammal, fusing the isolated splenocytes with an immortalized cell line to form hybridomas, and screening individual hybridomas for production of an antibody which specifically binds with the protein or protein fragment to isolate the hybridoma. The invention also includes an antibody produced by this method.

The invention further includes a method of assessing the cervical carcinogenic potential of a test compound. This method comprises the steps of:

- a) maintaining separate aliquots of cervical cells in the presence and absence of the test compound; and
- b) comparing expression of a marker in each of the aliquots.

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The marker is selected from those listed within Tables 1-4. A significantly enhanced level of expression of the marker in the aliquot maintained in the presence of (or exposed to) the test compound, relative to the aliquot maintained in the absence of the test compound, is an indication that the test compound possesses cervical carcinogenic potential.

Additionally, the invention includes a kit for assessing the cervical carcinogenic potential of a test compound. The kit comprises cervical cells and a reagent for assessing expression of a marker in each of the aliquots. The marker is selected from those listed within Tables 1-4.

The invention further relates to a method of treating a patient afflicted with cervical cancer. This method comprises providing to cells of the patient an antisense oligonucleotide complementary to a polynucleotide corresponding to a marker listed within Tables 1-4.

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The invention includes a method of inhibiting cervical cancer in a patient at risk for developing cervical cancer. This method comprises inhibiting expression or overexpression of a gene corresponding to a marker listed within Tables 1-4.

It will be appreciated that the methods and kits of the present invention may also include known cancer markers including known cervical cancer markers. It will further be appreciated that the methods and kits may be used to identify cancers other than cervical cancer.

DETAILED DESCRIPTION OF THE INVENTION

The invention relates to newly discovered genes associated with the cancerous state of cervical cells. It has been discovered that the level of expression of these individual genes, also referred to as markers, and combinations of these genes correlates with the presence of cervical cancer or a pre-malignant condition in a patient. Methods are provided for detecting the presence of cervical cancer in a sample, the absence of cervical cancer in a sample, the stage of cervical cancer, and with other characteristics of cervical cancer that are relevant to prevention, diagnosis, characterization and therapy of cervical cancer in a patient. As used herein, "cervical cancer" includes pre-malignant conditions including CIN and SIL.

Definitions

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As used herein, each of the following terms has the meaning associated with it in this section.

The articles "a" and "an" are used herein to refer to one or to more than one (i.e. to at least one) of the grammatical object of the article. By way of example, "an element" means one element or more than one element.

A "marker" is a naturally-occurring polymer corresponding to at least one of the novel nucleic acids listed within Tables 1-4. For example, markers include, without limitation, sense and anti-sense strands of genomic DNA (i.e. including any introns

occurring therein), RNA generated by transcription of genomic DNA (*i.e.* prior to splicing), RNA generated by splicing of RNA transcribed from genomic DNA, and proteins generated by translation of spliced RNA (*i.e.* including proteins both before and after cleavage of normally cleaved regions such as transmembrane signal sequences).

As used herein, "marker" may also include a cDNA made by reverse transcription of an RNA generated by transcription of genomic DNA (including spliced RNA).

As used herein a "polynucleotide corresponds to" another (a first) polynucleotide if it is related to the first polynucleotide by any of the following relationships: The second polynucleotide comprises the first polynucleotide and the second polynucleotide encodes a gene product; 2) The second polynucleotide is 5' or 3' to the first polynucleotide in cDNA, RNA, genomic DNA, or fragment of any of these polynucleotides. For example, a second polynucleotide may be a fragment of a gene that includes the first and second polynucleotides. The first and second polynucleotides are related in that they are components of the gene coding for a gene product, such as a protein or antibody. However, it is not necessary that the second polynucleotide comprises or overlaps with the first polynucleotide to be encompassed within the definition of "corresponding to" as used herein. For example, the first polynucleotide may be a fragment of a 3' untranslated region of the second polynucleotide. The first and second polynucleotide may be fragments of a gene coding for a gene product. The second polynucleotide may be an exon of the gene while the first polynucleotide may be an intron of the gene; 3) The second polynucleotide is the complement of the first polynucleotide.

The term "probe" refers to any molecule which is capable of selectively binding to a specifically intended target molecule, for example a marker of the invention.

Probes can be either synthesized by one skilled in the art, or derived from appropriate biological preparations. For purposes of detection of the target molecule, probes may be specifically designed to be labeled, as described herein. Examples of molecules that can be utilized as probes include, but are not limited to, RNA, DNA, proteins, antibodies, and organic monomers.

A "cervical-associated" body fluid is a fluid which, when in the body of a patient, contacts or passes through cervical cells or into which cells or proteins shed from cervical cells are capable of passing. Exemplary cervical-associated body fluids

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include blood fluids, lymph, ascites, gynecological fluids, cystic fluid, urine, and fluids collected by peritoneal rinsing.

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The "normal" level of expression of a marker is the level of expression of the marker in cervical cells of a patient, e.g. a human, not afflicted with cervical cancer.

"Over-expression" and "under-expression" of a marker refer to expression of the marker of a patient at a greater or lesser level, respectively, than normal level of expression of the marker (e.g. at least two-fold greater or lesser level).

As used herein, the term "promoter/regulatory sequence" means a nucleic acid sequence which is required for expression of a gene product operably linked to the promoter/regulatory sequence. In some instances, this sequence may be the core promoter sequence and in other instances, this sequence may also include an enhancer sequence and other regulatory elements which are required for expression of the gene product. The promoter/regulatory sequence may, for example, be one which expresses the gene product in a tissue-specific manner.

A "constitutive" promoter is a nucleotide sequence which, when operably linked with a polynucleotide which encodes or specifies a gene product, causes the gene product to be produced in a living human cell under most or all physiological conditions of the cell.

An "inducible" promoter is a nucleotide sequence which, when operably linked with a polynucleotide which encodes or specifies a gene product, causes the gene product to be produced in a living human cell substantially only when an inducer which corresponds to the promoter is present in the cell.

A "tissue-specific" promoter is a nucleotide sequence which, when operably linked with a polynucleotide which encodes or specifies a gene product, causes the gene product to be produced in a living human cell substantially only if the cell is a cell of the tissue type corresponding to the promoter.

A "transcribed polynucleotide" is a polynucleotide (e.g. an RNA, a cDNA, or an analog of one of an RNA or cDNA) which is complementary to or homologous with all or a portion of a mature RNA made by transcription of a genomic DNA corresponding to a marker of the invention and normal post-transcriptional processing (e.g. splicing), if any, of the transcript.

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"Complementary" refers to the broad concept of sequence complementarity between regions of two nucleic acid strands or between two regions of the same nucleic acid strand. It is known that an adenine residue of a first nucleic acid region is capable of forming specific hydrogen bonds ("base pairing") with a residue of a second nucleic acid region which is antiparallel to the first region if the residue is thymine or uracil. Similarly, it is known that a cytosine residue of a first nucleic acid strand is capable of base pairing with a residue of a second nucleic acid strand which is antiparallel to the first strand if the residue is guanine. A first region of a nucleic acid is complementary to a second region of the same or a different nucleic acid if, when the two regions are arranged in an antiparallel fashion, at least one nucleotide residue of the first region is capable of base pairing with a residue of the second region. Preferably, the first region comprises a first portion and the second region comprises a second portion, whereby, when the first and second portions are arranged in an antiparallel fashion, at least about 50%, and preferably at least about 75%, at least about 90%, or at least about 95% of the nucleotide residues of the first portion are capable of base pairing with nucleotide residues in the second portion. More preferably, all nucleotide residues of the first portion are capable of base pairing with nucleotide residues in the second portion.

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"Homologous" as used herein, refers to nucleotide sequence similarity between two regions of the same nucleic acid strand or between regions of two different nucleic acid strands. When a nucleotide residue position in both regions is occupied by the same nucleotide residue, then the regions are homologous at that position. A first region is homologous to a second region if at least one nucleotide residue position of each region is occupied by the same residue. Homology between two regions is expressed in terms of the proportion of nucleotide residue positions of the two regions that are occupied by the same nucleotide residue. By way of example, a region having the nucleotide sequence 5'-ATTGCC-3' and a region having the nucleotide sequence 5'-TATGGC-3' share 50% homology. Preferably, the first region comprises a first portion and the second region comprises a second portion, whereby, at least about 50%, and preferably at least about 75%, at least about 90%, or at least about 95% of the nucleotide residue positions of each of the portions are occupied by the same nucleotide residue. More preferably, all nucleotide residue positions of each of the portions are occupied by the same nucleotide residue.

A marker is "fixed" to a substrate if it is covalently or non-covalently associated with the substrate such the substrate can be rinsed with a fluid (e.g. standard saline citrate, pH 7.4) without a substantial fraction of the marker dissociating from the substrate.

As used herein, a "naturally-occurring" nucleic acid molecule refers to an RNA or DNA molecule having a nucleotide sequence that occurs in nature (e.g. encodes a natural protein).

Expression of a marker in a patient is "significantly" higher than the normal level of expression of a marker if the level of expression of the marker is greater than the normal level by an amount greater than the standard error of the assay employed to assess expression, and preferably at least twice, and more preferably three, four, five or ten times that amount. Alternately, expression of the marker in the patient can be considered "significantly" higher or lower than the normal level of expression if the level of expression is at least about two, and preferably at least about three, four, or five times, higher or lower, respectively, than the normal level of expression of the marker.

Cervical cancer is "inhibited" if at least one symptom of the cancer is alleviated, terminated, slowed, or prevented. As used herein, cervical cancer is also "inhibited" if recurrence or metastasis of the cancer is reduced, slowed, delayed, or prevented.

A kit is any manufacture (e.g. a package or container) comprising at least one reagent, e.g. a probe, for specifically detecting a marker of the invention, the manufacture being promoted, distributed, or sold as a unit for performing the methods of the present invention.

Description

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The present invention is based, in part, on identification of novel markers which are expressed at a higher level in cervical cancer cells than they are in normal (i.e. non-cancerous) cervical cells. The markers of the invention correspond to nucleic acid and polypeptide molecules which can be detected in one or both of normal and cancerous cervical cells. The presence, absence, or level of expression of one or more of these markers in cervical cells is herein correlated with the cancerous state of the tissue. The invention thus includes compositions, kits, and methods for assessing the cancerous state

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of cervical cells (e.g. cells obtained from a human, cultured human cells, archived or preserved human cells and *in vivo* cells).

The compositions, kits, and methods of the invention have the following uses, among others:

- 1) assessing whether a patient is afflicted with cervical cancer, including assessing whether the patient has a pre-malignant condition, e.g., CIN and/or SIL;
 - 2) assessing the stage of cervical cancer in a human patient;
 - 3) assessing the grade of cervical cancer in a patient;
 - 4) assessing the benign or malignant nature of cervical cancer in a patient;
- 10 5) assessing the histological type of neoplasm (e.g. squamous cell, small cell, etc.) associated with cervical cancer in a patient;
 - 6) making an isolated hybridoma which produces an antibody useful for assessing whether a patient is afflicted with cervical cancer;
 - 7) assessing the presence of cervical cancer cells;
- 15 8) assessing the efficacy of one or more test compounds for inhibiting cervical cancer in a patient;
 - assessing the efficacy of a therapy for inhibiting cervical cancer in a patient;
 - 10) monitoring the progression of cervical cancer in a patient;
- 20 11) selecting a composition or therapy for inhibiting cervical cancer in a patient;
 - 12) treating a patient afflicted with cervical cancer;
 - 13) inhibiting cervical cancer in a patient;

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- 14) assessing the cervical carcinogenic potential of a test compound; and
- 15) inhibiting cervical cancer in a patient at risk for developing cervical cancer.

The invention thus includes a method of assessing whether a patient is afflicted with cervical cancer which includes assessing whether the patient has a pre-malignant condition. This method comprises comparing the level of expression of a marker in a patient sample and the normal level of expression of the marker in a control, e.g., a non-

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cervical cancer sample. A significant difference between the level of expression of the marker in the patient sample and the normal level is an indication that the patient is afflicted with cervical cancer. The marker is selected from the group consisting of the markers listed within Tables 1-4.

The polynucleotides set forth in Tables 1-4 represent previously unidentified nucleotide sequences. These nucleotide sequences were identified through subtracted library experiments described herein. Also provided by this invention are polynucleotides that correspond to the polynucleotides of Tables 1-4. In one embodiment, these polynucleotides are obtained by identification of a larger fragment or full-length coding sequence of these polynucleotides. Gene delivery vehicles, host cells, compositions and databases (all describe herein) containing these polynucleotides are also provided by this invention.

The invention also encompasses polynucleotides which differ from that of the polynucleotides described above, but which produce the same phenotypic effect, such as an allelic variant. These altered, but phenotypically equivalent polynucleotides are referred to as "equivalent nucleic acids." This invention also encompasses polynucleotides characterized by changes in non-coding regions that do not alter the polypeptide produced therefrom when compared to the polynucleotide herein. This invention further encompasses polynucleotides, which hybridize to the polynucleotides of the subject invention under conditions of moderate or high stringency. Alternatively, the polynucleotides are at least 85%, or at least 90%, or more preferably, greater or equal to 95% identical as determined by a sequence alignment program when run under default parameters.

Any marker or combination of markers listed within Tables 1-4, as well as any known markers in combination with the markers set forth within Tables 1-4, may be used in the compositions, kits, and methods of the present invention. In general, it is preferable to use markers for which the difference between the level of expression of the marker in cervical cancer cells and the level of expression of the same marker in normal cervical cells is as great as possible. Although this difference can be as small as the limit of detection of the method for assessing expression of the marker, it is preferred that the difference be at least greater than the standard error of the assessment method,

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and preferably a difference of at least 2-, 3-, 4-, 5-, 6-, 7-, 8-, 9-, 10-, 15-, 20-, 25-, 100-, 500-, 1000-fold or greater.

It will be appreciated that patient samples containing cervical cells may be used in the methods of the present invention. In these embodiments, the level of expression of the marker can be assessed by assessing the amount (e.g. absolute amount or concentration) of the marker in a cervical cell sample, e.g., cervical smear, obtained from a patient. The cell sample can, of course, be subjected to a variety of well-known post-collection preparative and storage techniques (e.g. storage, freezing, ultrafiltration, concentration, evaporation, centrifugation, etc.) prior to assessing the amount of the marker in the sample. Likewise cervical smears may also be subjected to post-collection preparative and storage techniques, e.g., fixation.

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It will also be appreciated that certain markers correspond to proteins or fragments thereof, which are secreted from cervical cells (*i.e.* one or both of normal and cancerous cells) to the extracellular space surrounding the cells. These markers are preferably used in certain embodiments of the compositions, kits, and methods of the invention, owing to the fact that the protein or fragment thereof, corresponding to each of these markers can be detected in a cervical-associated body fluid sample. In addition, preferred *in vivo* techniques for detection of a protein or fragment thereof, corresponding to a marker of the invention include introducing into a subject a labeled antibody directed against the protein or fragment of the protein. For example, the antibody can be labeled with a radioactive marker whose presence and location in a subject can be detected by standard imaging techniques.

Although not every marker corresponding to a secreted protein is indicated as such herein, it is a simple matter for the skilled artisan to determine whether any particular marker corresponds to a secreted protein. In order to make this determination, the protein corresponding to a marker is expressed in a test cell (e.g. a cell of a cervical cell line), extracellular fluid is collected, and the presence or absence of the protein in the extracellular fluid is assessed (e.g. using a labeled antibody which binds specifically with the protein).

The following is an example of a method which can be used to detect secretion of a protein corresponding to a marker of the invention. About 8 x 10⁵ 293T cells are incubated at 37°C in wells containing growth medium (Dulbecco's modified Eagle's medium {DMEM} supplemented with 10% fetal bovine serum) under a 5% (v/v) CO₂, 95% air atmosphere to about 60-70% confluence. The cells are then transfected using a standard transfection mixture comprising 2 micrograms of DNA comprising an expression vector encoding the protein and 10 microliters of LipofectAMINE™ (GIBCO/BRL Catalog no. 18342-012) per well. The transfection mixture is maintained for about 5 hours, and then replaced with fresh growth medium and maintained in an air atmosphere. Each well is gently rinsed twice with DMEM which does not contain methionine or cysteine (DMEM-MC; ICN Catalog no. 16-424-54). About 1 milliliter of DMEM-MC and about 50 microcuries of Trans-35 STM reagent (ICN Catalog no. 51006) are added to each well. The wells are maintained under the 5% CO₂ atmosphere described above and incubated at 37°C for a selected period. Following incubation, 150 microliters of conditioned medium is removed and centrifuged to remove floating cells and debris. The presence of the protein in the supernatant is an indication that the protein is secreted.

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Examples of cervical-associated body fluids include blood fluids (e.g. whole blood, blood serum, blood having platelets removed therefrom, etc.), lymph, ascitic fluids, gynecological fluids (e.g. cervix, fallopian, and uterine secretions, menses, vaginal douching fluids, fluids used to rinse cervical cell samples, etc.), cystic fluid, urine, and fluids collected by peritoneal rinsing (e.g. fluids applied and collected during laparoscopy or fluids instilled into and withdrawn from the peritoneal cavity of a human patient).

Many cervical-associated body fluids can have cervical cells therein, particularly when the cervical cells are cancerous, and, more particularly, when the cervical cancer is metastasizing. Cell-containing fluids which can contain cervical cancer cells include, but are not limited to, peritoneal ascites, fluids collected by peritoneal rinsing, fluids collected by uterine rinsing, uterine fluids such as uterine exudate and menses, pleural fluid, and cervical exudates. Thus, the compositions, kits, and methods of the invention can be used to detect expression of markers corresponding to proteins or fragments thereof, having at least one portion which is displayed on the surface of cells which

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express it. Although the proteins having at least one cell-surface portion are not set forth herein, it is a simple matter for the skilled artisan to determine whether the protein corresponding to any particular marker comprises a cell-surface protein. For example, immunological methods may be used to detect such proteins on whole cells, or well known computer-based sequence analysis methods (e.g. the SIGNALP program; Nielsen et al., 1997, Protein Engineering 10:1-6) may be used to predict the presence of at least one extracellular domain (i.e. including both secreted proteins and proteins having at least one cell-surface domain). Expression of a marker corresponding to a protein or fragment thereof, having at least one portion which is displayed on the surface of a cell which expresses it may be detected without necessarily lysing the cell (e.g. using a labeled antibody which binds specifically with a cell-surface domain of the protein).

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Expression of a marker of the invention may be assessed by any of a wide variety of well known methods for detecting expression of a transcribed molecule or protein. Non-limiting examples of such methods include immunological methods for detection of secreted, cell-surface, cytoplasmic, or nuclear proteins, protein purification methods, protein function or activity assays, nucleic acid hybridization methods, nucleic acid reverse transcription methods, and nucleic acid amplification methods. *In situ* hybridization (ISH) and immunohistochemistry (IHC) methods are preferred.

In another preferred embodiment, expression of a marker is assessed using an antibody (e.g. a radio-labeled, chromophore-labeled, fluorophore-labeled, or enzyme-labeled antibody), an antibody derivative (e.g. an antibody conjugated with a substrate or with the protein or ligand of a protein-ligand pair {e.g. biotin-streptavidin}), or an antibody fragment (e.g. a single-chain antibody, an isolated antibody hypervariable domain, etc.) which binds specifically with a protein or fragment thereof, corresponding to the marker, such as the protein encoded by the open reading frame corresponding to the marker or such a protein which has undergone all or a portion of its normal post-translational modification.

In yet another preferred embodiment, expression of a marker is assessed by preparing mRNA/cDNA (i.e. a transcribed polynucleotide) from cells in a patient sample, and by hybridizing the mRNA/cDNA with a reference polynucleotide which is a complement of a polynucleotide comprising the marker, and fragments thereof. cDNA can, optionally, be amplified using any of a variety of polymerase chain reaction

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methods prior to hybridization with the reference polynucleotide. Expression of one or more markers can likewise be detected using quantitative PCR to assess the level of expression of the marker(s). Alternatively, any of the many known methods of detecting mutations or variants (e.g. single nucleotide polymorphisms, deletions, etc.) of a marker of the invention may be used to detect occurrence of a marker in a patient.

In a related embodiment, a mixture of transcribed polynucleotides obtained from the sample is contacted with a substrate having fixed thereto a polynucleotide complementary to or homologous with at least a portion (e.g. at least 7, 10, 15, 20, 25, 30, 40, 50, 100, 500, or more nucleotide residues) of a marker of the invention. If polynucleotides complementary to or homologous with are differentially detectable on the substrate (e.g. detectable using different chromophores or fluorophores, or fixed to different selected positions), then the levels of expression of a plurality of markers can be assessed simultaneously using a single substrate (e.g. a "gene chip" microarray of polynucleotides fixed at selected positions). When a method of assessing marker expression is used which involves hybridization of one nucleic acid with another, it is preferred that the hybridization be performed under stringent hybridization conditions.

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Because the compositions, kits, and methods of the invention rely on detection of a difference in expression levels of one or more markers of the invention, it is preferable that the level of expression of the marker is significantly greater than the minimum detection limit of the method used to assess expression in at least one of normal cervical cells and cancerous cervical cells.

It is understood that by routine screening of additional patient samples using one or more of the markers of the invention, it will be realized that certain of the markers are over- (or under-)expressed in cancers of various types, including specific cervical cancers, as well as other cancers such as ovarian cancer, breast cancer, etc. For example, it will be confirmed that some of the markers of the invention are over-expressed in most (i.e. 50% or more) or substantially all (i.e. 80% or more) of cervical cancer. Furthermore, it will be confirmed that certain of the markers of the invention are associated with cervical cancer of various stages (i.e. stage 0, I, II, III, and IV cervical cancers, as well as subclassifications IA1, IA2, IB, IB1, IB2, IIA, IIB, IIIA, IIIB, IVA, and IVB, using the FIGO Stage Grouping system for primary carcinoma of the cervix (see Gynecologic Oncology, 1991, 41:199 and Cancer, 1992, 69:482)), of various

histologic subtypes (e.g. squamous cell carcinomas and squamous cell carcinoma variants such as verrucous carcinoma, lymphoepithelioma-like carcinoma, papillary squamous neoplasm and spindle cell squamous cell carcinoma (see Cervical Cancer and Preinvasive Neoplasia, 1996, pp. 90-91), serous, mucinous, endometroid, and clear cell subtypes, as well as subclassifications and alternate classifications adenocarcinoma, papillary adenocarcinoma, papillary cystadenocarcinoma, surface papillary carcinoma, malignant adenofibroma, cystadenofibroma, adenocarcinoma, cystadenocarcinoma, adenoacanthoma, endometrioid stromal sarcoma, mesodermal {Müllerian} mixed tumor, malignant carcinoma, Brenner tumor, mixed epithelial tumor, and undifferentiated carcinoma, using the WHO/FIGO system for classification of malignant cervical tumors; Scully, Atlas of Tumor Pathology, 3d series, Washington DC), and various grades (i.e. grade I (well differentiated), grade II (moderately well differentiated), and grade III {poorly differentiated from surrounding normal tissue}). In addition, as a greater number of patient samples are assessed for expression of the markers of the invention and the outcomes of the individual patients from whom the samples were obtained are correlated, it will also be confirmed that altered expression of certain of the markers of the invention are strongly correlated with malignant cancers and that altered expression of other markers of the invention are strongly correlated with benign tumors. The compositions, kits, and methods of the invention are thus useful for characterizing one or more of the stage, grade, histological type, and benign/malignant nature of cervical cancer in patients.

When the compositions, kits, and methods of the invention are used for characterizing one or more of the stage, grade, histological type, and benign/malignant nature of cervical cancer in a patient, it is preferred that the marker or panel of markers of the invention is selected such that a positive result is obtained in at least about 20%, and preferably at least about 40%, 60%, or 80%, and more preferably in substantially all patients afflicted with a cervical cancer of the corresponding stage, grade, histological type, or benign/malignant nature. Preferably, the marker or panel of markers of the invention is selected such that a positive predictive value (PPV) of greater than about 10% is obtained for the general population (more preferably coupled with an assay specificity greater than 99.5%).

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When a plurality of markers of the invention are used in the compositions, kits, and methods of the invention, the level of expression of each marker in a patient sample can be compared with the normal level of expression of each of the plurality of markers in non-cancerous samples of the same type, either in a single reaction mixture (*i.e.* using reagents, such as different fluorescent probes, for each marker) or in individual reaction mixtures corresponding to one or more of the markers. In one embodiment, a significantly enhanced level of expression of more than one of the plurality of markers in the sample, relative to the corresponding normal levels, is an indication that the patient is afflicted with cervical cancer. When a plurality of markers is used, it is preferred that 2, 3, 4, 5, 8, 10, 12, 15, 20, 30, or 50 or more individual markers be used, wherein fewer markers are preferred.

In order to maximize the sensitivity of the compositions, kits, and methods of the invention (i.e. by interference attributable to cells of non-cervical origin in a patient sample), it is preferable that the marker of the invention used therein be a marker which has a restricted tissue distribution, e.g., normally not expressed in non-cervical tissue.

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Only a small number of markers are known to be associated with cervical cancers (e.g. bcl-2, 15A8 antigen, cdc6, Mcm5, and EGFR). These markers are not, of course, included among the markers of the invention, although they may be used together with one or more markers of the invention in a panel of markers, for example. It is well known that certain types of genes, such as oncogenes, tumor suppressor genes, growth factor-like genes, protease-like genes, and protein kinase-like genes are often involved with development of cancers of various types. Thus, among the markers of the invention, use of those which correspond to proteins which resemble known proteins encoded by known oncogenes and tumor suppressor genes, and those which correspond to proteins which resemble growth factors, proteases, and protein kinases are preferred.

Known oncogenes and tumor suppressor genes include, for example, abl, abr, akt2, apc, bcl2α, bcl2β, bcl3, bcr, brca1, brca2, cbl, ccnd1, cdc42, cdk4, crk- II, csf1r/fms, dbl, dcc, dpc4/smad4, e-cad, e2f1/rbap, egfr/erbb-1, elk1, elk3, eph, erg, ets1, ets2, fer, fgr/src2, fli1/ergb2, fos, fps/fes, fra1, fra2, fyn, hck, hek, her2/erbb- 2/neu, her3/erbb-3, her4/erbb-4, hras1, hst2, hstf1, igfbp2, ink4a, ink4b, int2/fgf3, jun, junb, jund, kip2, kit, kras2a, kras2b, lck, lyn, mas, max, mcc, mdm2, met, mlh1, mmp10, mos, msh2, msh3, msh6, myb, myba, mybb, myc, mycl1, mycn, nf1, nf2, nme2, nras, p53,

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pdgfb, phb, pim1, pms1, pms2, ptc, pten, raf1, rap1a, rb1, rel, ret, ros1, ski, src1, tal1, tgfbr2, tgfb3, tgfbr3, thra1, thrb, tiam1, timp3, tjp1, tp53, trk, vav, vhl, vil2, waf1, wnt1, wnt2, wt1, and yes1 (Hesketh, 1997, In: The Oncogene and Tumour Suppressor Gene Facts Book, 2nd Ed., Academic Press; Fishel et al., 1994, Science 266:1403-1405).

Known growth factors include platelet-derived growth factor alpha, plateletderived growth factor beta (simian sarcoma viral {v-sis} oncogene homolog), thrombopoietin (myeloproliferative leukemia virus oncogene ligand, megakaryocyte growth and development factor), erythropoietin, B cell growth factor, macrophage stimulating factor 1 (hepatocyte growth factor-like protein), hepatocyte growth factor (hepapoietin A), insulin-like growth factor 1 (somatomedia C), hepatoma-derived growth factor, amphiregulin (schwannoma-derived growth factor), bone morphogenetic proteins 1, 2, 3, 3 beta, and 4, bone morphogenetic protein 7 (osteogenic protein 1), bone morphogenetic protein 8 (osteogenic protein 2), connective tissue growth factor, connective tissue activation peptide 3, epidermal growth factor (EGF), teratocarcinomaderived growth factor 1, endothelin, endothelin 2, endothelin 3, stromal cell-derived factor 1, vascular endothelial growth factor (VEGF), VEGF-B, VEGF-C, placental growth factor (vascular endothelial growth factor-related protein), transforming growth factor alpha, transforming growth factor beta 1 and its precursors, transforming growth factor beta 2 and its precursors, fibroblast growth factor 1 (acidic), fibroblast growth factor 2 (basic), fibroblast growth factor 5 and its precursors, fibroblast growth factor 6 and its precursors, fibroblast growth factor 7 (keratinocyte growth factor), fibroblast growth factor 8 (androgen-induced), fibroblast growth factor 9 (glia-activating factor), pleiotrophin (heparin binding growth factor 8, neurite growth-promoting factor 1), brain-derived neurotrophic factor, and recombinant glial growth factor 2.

Known proteases include interleukin-1 beta convertase and its precursors, Mch6 and its precursors, Mch2 isoform alpha, Mch4, Cpp32 isoform alpha, Lice2 gamma cysteine protease, Ich-1S, Ich-1L, Ich-2 and its precursors, TY protease, matrix metalloproteinase 1 (interstitial collagenase), matrix metalloproteinase 2 (gelatinase A, 72kD gelatinase, 72kD type IV collagenase), matrix metalloproteinase 7 (matrilysin), matrix metalloproteinase 8 (neutrophil collagenase), matrix metalloproteinase 12 (macrophage elastase), matrix metalloproteinase 13 (collagenase 3), metallopeptidase 1, cysteine-rich metalloprotease (disintegrin) and its precursors, subtilisin-like protease Pc8

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and its precursors, chymotrypsin, snake venom-like protease, cathepsin I, cathepsin D (lysosomal aspartyl protease), stromelysin, aminopeptidase N, plasminogen, tissue plasminogen activator, plasminogen activator inhibitor type II, and urokinase-type plasminogen activator.

Known protein kinases include DAP kinase, serine/threonine protein kinases NIK, PK428, Krs-2, SAK, and EMK, interferon-inducible double stranded RNA dependent protein kinase, FAST kinase, AIM1, IPL1-like midbody-associated protein kinase-1, NIMA-like protein kinase 1 (NLK1), the cyclin-dependent kinases (cdk1-10), checkpoint kinase Chk1, Nek3 protein kinase, BMK1 beta kinase, Clk1, Clk2, Clk3, extracellular signal-regulated kinases 1, 3, and 6, cdc28 protein kinase 1, cdc28 protein kinase 2, pLK, Myt1, c-Jun N-terminal kinase 2, Cam kinase 1, the MAP kinases, insulin-stimulated protein kinase 1, beta-adrenergic receptor kinase 2, ribosomal protein S6 kinase, kinase suppressor of ras-1 (KSR1), putative serine/threonine protein kinase Prk, PkB kinase, cAMP-dependent protein kinase, cGMP-dependent protein kinase, type II cGMP-dependent protein kinase, protein kinases Dyrk2, Dyrk3, and Dyrk4, Rhoassociated coiled-coil containing protein kinase p160ROCK, protein tyrosine kinase t-Ror1, Ste20-related kinases, cell adhesion kinase beta, protein kinase 3, stress-activated protein kinase 4, protein kinase Zpk, serine kinase hPAK65, dual specificity mitogenactivated protein kinases 1 and 2, casein kinase I gamma 2, p21-activated protein kinase Pak1, lipid-activated protein kinase PRK2, focal adhesion kinase, dual-specificity tyrosine-phosphorylation regulated kinase, myosin light chain kinase, serine kinases SRPK2, TESK1, and VRK2, B lymphocyte serine/threonine protein kinase, stressactivated protein kinases JNK1 and JNK2, phosphorylase kinase, protein tyrosine kinase Tec, Jak2 kinase, protein kinase Ndr, MEK kinase 3, SHB adaptor protein (a Src homology 2 protein), agammaglobulinaemia protein-tyrosine kinase (Atk), protein kinase ATR, guanylate kinase 1, thrombopoeitin receptor and its precursors, DAG kinase epsilon, and kinases encoded by oncogenes or viral oncogenes such as v-fgr (Gardner-Rasheed), v-abl (Abelson murine leukemia viral oncogene homolog 1), v-arg (Abelson murine leukemia viral oncogene homolog, Abelson-related gene), v-fes and v-30 fps (feline sarcoma viral oncogene and Fujinami avian sarcoma viral oncogene homologs), proto-oncogene c-cot, oncogene pim-1, and oncogene mas1.

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It is recognized that the compositions, kits, and methods of the invention will be of particular utility to patients having an enhanced risk of developing cervical cancer and their medical advisors. Patients recognized as having an enhanced risk of developing cervical cancer include, for example, patients having a familial history of cervical cancer, patients identified as having a mutant oncogene (*i.e.* at least one allele), and patients determined through any other established medical criteria to be at risk for cancer or other malignancy.

The level of expression of a marker in normal (i.e. non-cancerous) human cervical tissue can be assessed in a variety of ways. In one embodiment, this normal level of expression is assessed by assessing the level of expression of the marker in a portion of cervical cells which appears to be non-cancerous and by comparing this normal level of expression with the level of expression in a portion of the cervical cells which is suspected of being cancerous. For example, the normal level of expression of a marker may be assessed using a non-affected portion of the cervix and this normal level of expression may be compared with the level of expression of the same marker in an affected portion of the cervix. Alternately, and particularly as further information becomes available as a result of routine performance of the methods described herein, population-average values for normal expression of the markers of the invention may be used. In other embodiments, the 'normal' level of expression of a marker may be determined by assessing expression of the marker in a patient sample obtained from a non-cancer-afflicted patient, from a patient sample obtained from a patient before the suspected onset of cervical cancer in the patient, from archived patient samples, and the like.

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The invention includes compositions, kits, and methods for assessing the presence of cervical cancer cells in a sample (e.g. an archived tissue sample or a sample obtained from a patient). These compositions, kits, and methods are substantially the same as those described above, except that, where necessary, the compositions, kits, and methods are adapted for use with samples other than patient samples. For example, when the sample to be used is a parafinized, archived human tissue sample, it can be necessary to adjust the ratio of compounds in the compositions of the invention, in the kits of the invention, or the methods used to assess levels of marker expression in the

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sample. Such methods are well known in the art and within the skill of the ordinary artisan.

The invention includes a kit for assessing the presence of cervical cancer cells (e.g. in a sample such as a patient sample). The kit comprises a plurality of reagents, each of which is capable of binding specifically with a nucleic acid or polypeptide corresponding to a marker of the invention. Suitable reagents for binding with a polypeptide corresponding to a marker of the invention include antibodies, antibody derivatives, antibody fragments, and the like. Suitable reagents for binding with a nucleic acid (e.g. a genomic DNA, an mRNA, a spliced mRNA, a cDNA, or the like) include complementary nucleic acids. For example, the nucleic acid reagents may include oligonucleotides (labeled or non-labeled) fixed to a substrate, labeled oligonucleotides not bound with a substrate, pairs of PCR primers, molecular beacon probes, and the like.

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The kit of the invention may optionally comprise additional components useful for performing the methods of the invention. By way of example, the kit may comprise fluids (e.g. SSC buffer) suitable for annealing complementary nucleic acids or for binding an antibody with a protein with which it specifically binds, one or more sample compartments, an instructional material which describes performance of a method of the invention, a sample of normal cervical cells, a sample of cervical cancer cells, and the like.

The invention also includes a method of making an isolated hybridoma which produces an antibody useful for assessing whether a patient is afflicted with cervical cancer. In this method, a protein corresponding to a marker of the invention is isolated (e.g. by purification from a cell in which it is expressed or by transcription and translation of a nucleic acid encoding the protein in vivo or in vitro using known methods). A vertebrate, preferably a mammal such as a mouse, rat, rabbit, or sheep, is immunized using the isolated protein or protein fragment. The vertebrate may optionally (and preferably) be immunized at least one additional time with the isolated protein or protein fragment, so that the vertebrate exhibits a robust immune response to the protein or protein fragment. Splenocytes are isolated from the immunized vertebrate and fused with an immortalized cell line to form hybridomas, using any of a variety of methods well known in the art. Hybridomas formed in this manner are then screened

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using standard methods to identify one or more hybridomas which produce an antibody which specifically binds with the protein or protein fragment. The invention also includes hybridomas made by this method and antibodies made using such hybridomas.

The invention also includes a method of assessing the efficacy of a test compound for inhibiting cervical cancer cells. As described above, differences in the level of expression of the markers of the invention correlate with the cancerous state of cervical cells. Although it is recognized that changes in the levels of expression of certain of the markers of the invention likely result from the cancerous state of cervical cells, it is likewise recognized that changes in the levels of expression of other of the markers of the invention induce, maintain, and promote the cancerous state of those cells. Thus, compounds which inhibit cervical cancer in a patient will cause the level of expression of one or more of the markers of the invention to change to a level nearer the normal level of expression for that marker (*i.e.* the level of expression for the marker in non-cancerous cervical cells).

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This method thus comprises comparing expression of a marker in a first cervical cell sample and maintained in the presence of the test compound and expression of the marker in a second cervical cell sample and maintained in the absence of the test compound. A significant decrease in the level of expression of a marker listed within Tables 1-4 is an indication that the test compound inhibits cervical cancer. The cervical cell samples may, for example, be aliquots of a single sample of normal cervical cells obtained from a patient, pooled samples of normal cervical cells obtained from a patient, cells of a normal cervical cell line, aliquots of a single sample of cervical cancer cells obtained from a patient, pooled samples of cervical cancer cells obtained from a patient, cells of a cervical cancer cell line, or the like. In one embodiment, the samples are cervical cancer cells obtained from a patient and a plurality of compounds known to be effective for inhibiting various cervical cancers are tested in order to identify the compound which is likely to best inhibit the cervical cancer in the patient.

This method may likewise be used to assess the efficacy of a therapy for inhibiting cervical cancer in a patient. In this method, the level of expression of one or more markers of the invention in a pair of samples (one subjected to the therapy, the other not subjected to the therapy) is assessed. As with the method of assessing the efficacy of test compounds, if the therapy induces a significant decrease in the level of

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expression of a marker listed within Tables 1-4, or blocks induction of a marker listed within Tables 1-4, then the therapy is efficacious for inhibiting cervical cancer. As above, if samples from a selected patient are used in this method, then alternative therapies can be assessed *in vitro* in order to select a therapy most likely to be efficacious for inhibiting cervical cancer in the patient.

As described herein, cervical cancer in patients is associated with an increase in the level of expression of one or more markers listed within Tables 1-4. While, as discussed above, some of these changes in expression level result from occurrence of the cervical cancer, others of these changes induce, maintain, and promote the cancerous state of cervical cancer cells. Thus, cervical cancer characterized by an increase in the level of expression of one or more markers listed within Tables 1-4 can be controlled or suppressed by inhibiting expression of those markers.

Expression of a marker listed within Tables 1-4 can be inhibited in a number of ways generally known in the art. For example, an antisense oligonucleotide can be provided to the cervical cancer cells in order to inhibit transcription, translation, or both, of the marker(s). Alternately, a polynucleotide encoding an antibody, an antibody derivative, or an antibody fragment, and operably linked with an appropriate promoter/regulator region, can be provided to the cell in order to generate intracellular antibodies which will inhibit the function or activity of the protein corresponding to the marker(s). Using the methods described herein, a variety of molecules, particularly including molecules sufficiently small that they are able to cross the cell membrane, can be screened in order to identify molecules which inhibit expression of the marker(s). The compound so identified can be provided to the patient in order to inhibit expression of the marker(s) in the cervical cancer cells of the patient.

As described above, the cancerous state of human cervical cells is correlated with changes in the levels of expression of the markers of the invention. Thus, compounds which induce increased expression of one or more of the markers listed within Tables 1-4 can induce cervical cell carcinogenesis. The invention thus includes a method for assessing the human cervical cell carcinogenic potential of a test compound. This method comprises maintaining separate aliquots of human cervical cells in the presence and absence of the test compound. Expression of a marker of the invention in each of the aliquots is compared. A significant increase in the level of expression of a

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marker listed within Tables 1-4 in the aliquot maintained in the presence of the test compound (relative to the aliquot maintained in the absence of the test compound) is an indication that the test compound possesses human cervical cell carcinogenic potential. The relative carcinogenic potentials of various test compounds can be assessed by comparing the degree of enhancement or inhibition of the level of expression of the relevant markers, by comparing the number of markers for which the level of expression is enhanced or inhibited, or by comparing both.

Various aspects of the invention are described in further detail in the following subsections.

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I. Isolated Nucleic Acid Molecules

One aspect of the invention pertains to novel isolated nucleic acid molecules that correspond to a marker of the invention, including nucleic acids which encode a polypeptide corresponding to a marker of the invention or a portion of such a polypeptide. Isolated nucleic acids of the invention also include nucleic acid molecules sufficient for use as hybridization probes to identify nucleic acid molecules that correspond to a marker of the invention, including nucleic acids which encode a polypeptide corresponding to a marker of the invention, and fragments of such nucleic acid molecules, e.g., those suitable for use as PCR primers for the amplification or mutation of nucleic acid molecules. As used herein, the term "nucleic acid molecule" is intended to include DNA molecules (e.g., cDNA or genomic DNA) and RNA molecules (e.g., mRNA) and analogs of the DNA or RNA generated using nucleotide analogs. The nucleic acid molecule can be single-stranded or double-stranded, but preferably is double-stranded DNA.

An "isolated" nucleic acid molecule is one which is separated from other nucleic acid molecules which are present in the natural source of the nucleic acid molecule. Preferably, an "isolated" nucleic acid molecule is free of sequences (preferably protein-encoding sequences) which naturally flank the nucleic acid (*i.e.*, sequences located at the 5' and 3' ends of the nucleic acid) in the genomic DNA of the organism from which the nucleic acid is derived. For example, in various embodiments, the isolated nucleic acid molecule can contain less than about 5 kB, 4 kB, 3 kB, 2 kB, 1 kB, 0.5 kB or 0.1 kB of nucleotide sequences which naturally flank the nucleic acid molecule in genomic DNA

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of the cell from which the nucleic acid is derived. Moreover, an "isolated" nucleic acid molecule, such as a cDNA molecule, can be substantially free of other cellular material, or culture medium when produced by recombinant techniques, or substantially free of chemical precursors or other chemicals when chemically synthesized.

A nucleic acid molecule of the present invention, e.g., a nucleic acid encoding a protein corresponding to a marker listed in Tables 1-4, can be isolated using standard molecular biology techniques and the sequence information described herein. Using all or a portion of such nucleic acid sequences, nucleic acid molecules of the invention can be isolated using standard hybridization and cloning techniques (e.g., as described in Sambrook et al., ed., Molecular Cloning: A Laboratory Manual, 2nd ed., Cold Spring Harbor Laboratory Press, Cold Spring Harbor, NY, 1989).

A process for identifying a larger fragment or the full-length coding sequence of a marker of the present invention is thus also provided. Any conventional recombinant DNA techniques applicable for isolating polynucleotides may be employed. One such method involves the 5'-RACE-PCR technique, in which the poly-A mRNA that contains the coding sequence of particular interest is first reverse transcribed with a 3'-primer comprising a sequence disclosed herein. The newly synthesized cDNA strand is then tagged with an anchor primer with a known sequence, which preferably contains a convenient cloning restriction site attached at the 5'end. The tagged cDNA is then amplified with the 3'-primer (or a nested primer sharing sequence homology to the internal sequences of the coding region) and the 5'-anchor primer. The amplification may be conducted under conditions of various levels of stringency to optimize the amplification specificity. 5'-RACE-PCR can be readily performed using commercial kits (available from, e.g., BRL Life Technologies Inc., Clotech) according to the manufacturer's instructions.

Isolating the complete coding sequence of a gene can also be carried out in a hybridization assay using a suitable probe. The probe preferably comprises at least 10 nucleotides, and more preferably exhibits sequence homology to the polynucleotides of the markers of the present invention. Other high throughput screens for cDNAs, such as those involving gene chip technology, can also be employed in obtaining the complete cDNA sequence.

In addition, databases exist that reduce the complexity of ESTs by assembling contiguous EST sequences into tentative genes. For example, TIGR has assembled human ESTs into a database called THC for tentative human consensus sequences. The THC database allows for a more definitive assignment compared to ESTs alone.

Software programs exist (TIGR assembler and TIGEM EST assembly machine and contig assembly program (see Huang, X., 1996, *Genomes* 33:21-23)) that allow for assembling ESTs into contiguous sequences from any organism.

Alternatively, mRNA from a sample preparation is used to construct cDNA library in the ZAP Express vector following the procedure described in Velculescu *et al.*, 1997, *Science* 270:484. The ZAP Express cDNA synthesis kit (Stratagene) is used accordingly to the manufacturer's protocol. Plates containing 250 to 2000 plaques are hybridized as described in Rupert *et al.*, 1988, *Mol. Cell. Bio.* 8:3104 to oligonucleotide probes with the same conditions previously described for standard probes except that the hybridization temperature is reduced to a room temperature. Washes are performed in 6X standard-saline-citrate 0.1% SDS for 30 minutes at room temperature. The probes are labeled with ³²P-ATP trough use of T4 polynucleotide kinase.

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A partial cDNA (3' fragment) can be isolated by 3' directed PCR reaction. This procedure is a modification of the protocol described in Polyak *et al.*, 1997, *Nature* 389:300. Briefly, the procedure uses SAGE tags in PCR reaction such that the resultant PCR product contains the SAGE tag of interest as well as additional cDNA, the length of which is defined by the position of the tag with respect to the 3' end of the cDNA. The cDNA product derived from such a transcript driven PCR reaction can be used for many applications.

RNA from a source to express the cDNA corresponding to a given tag is first converted to double-stranded cDNA using any standard cDNA protocol. Similar conditions used to generate cDNA for SAGE library construction can be employed except that a modified oligo-dT primer is used to derive the first strand synthesis. For example, the oligonucleotide of composition 5'-B-TCC GGC GCG CCG TTT TCC CAG TCA CGA(30)-3', contains a poly-T stretch at the 3' end for hybridization and priming from poly-A tails, an M13 priming site for use in subsequent PCR steps, a 5' Biotin label (B) for capture to strepavidin-coated magnetic beads, and an Ascl restriction endonuclease site for releasing the cDNA from the strepavidin-coated magnetic beads.

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Theoretically, any sufficiently-sized DNA region capable of hybridizing to a PCR primer can be used as well as any other 8 base pair recognizing endonuclease.

cDNA constructed utilizing this or similar modified oligo-dT primer is then processed as described in U.S. Patent No. 5,695,937 up until adapter ligation where only one adapter is ligated to the cDNA pool. After adapter ligation, the cDNA is released from the streptavidin-coated magnetic beads and is then used as a template for cDNA amplification.

Various PCR protocols can be employed using PCR priming sites within the 3' modified oligo-dT primer and the SAGE tag. The SAGE tag-derived PCR primer employed can be of varying length dictated by 5' extension of the tag into the adaptor sequence. cDNA products are now available for a variety of applications.

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This technique can be further modified by: (1) altering the length and/or content of the modified oligo-dT primer; (2) ligating adaptors other than that previously employed within the SAGE protocol; (3) performing PCR from template retained on the streptavidin-coated magnetic beads; and (4) priming first strand cDNA synthesis with non-oligo-dT based primers.

Gene trapper technology can also be used. The reagents and manufacturer's instructions for this technology are commercially available from Life Technologies, Inc., Gaithsburg, Maryland. Briefly, a complex population of single-stranded phagemid DNA containing directional cDNA inserts is enriched for the target sequence by hybridization in solution to a biotinylated oligonucleotide probe complementary to the target sequence. The hybrids are captured on streptavidin-coated paramagnetic beads. A magnet retrieves the paramagnetic beads from the solution, leaving nonhybridized single-stranded DNAs behind. Subsequently, the captured single-stranded DNA target is released from the biotinylated oligonucleotide. After release, the cDNA clone is further enriched by using a nonbiotinylated target oligonucleotide to specifically prime conversion of the single-stranded DNA. Following transformation and plating, typically 20% to 100% of the colonies represent the cDNA clone of interest. To identify the desired cDNA clone, the colonies may be screened by colony hybridization using the ³²P-labeled oligonucleotide, or alternatively by DNA sequencing and alignment of all sequences obtained from numerous clones to determine a consensus sequence.

A nucleic acid molecule of the invention can be amplified using cDNA, mRNA, or genomic DNA as a template and appropriate oligonucleotide primers according to standard PCR amplification techniques. The nucleic acid so amplified can be cloned into an appropriate vector and characterized by DNA sequence analysis. Furthermore, oligonucleotides corresponding to all or a portion of a nucleic acid molecule of the invention can be prepared by standard synthetic techniques, *e.g.*, using an automated DNA synthesizer.

In another preferred embodiment, an isolated nucleic acid molecule of the invention comprises a nucleic acid molecule which has a nucleotide sequence complementary to the nucleotide sequence of a nucleic acid corresponding to a marker of the invention or to the nucleotide sequence of a nucleic acid encoding a protein which corresponds to a marker of the invention. A nucleic acid molecule which is complementary to a given nucleotide sequence is one which is sufficiently complementary to the given nucleotide sequence that it can hybridize to the given nucleotide sequence thereby forming a stable duplex.

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Moreover, a nucleic acid molecule of the invention can comprise only a portion of a nucleic acid sequence, wherein the full length nucleic acid sequence comprises a marker of the invention or which encodes a polypeptide corresponding to a marker of the invention. Such nucleic acids can be used, for example, as a probe or primer. The probe/primer typically is used as one or more substantially purified oligonucleotides. The oligonucleotide typically comprises a region of nucleotide sequence that hybridizes under stringent conditions to at least about 7, preferably about 15, more preferably about 25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, or 400 or more consecutive nucleotides of a nucleic acid of the invention.

Probes based on the sequence of a nucleic acid molecule of the invention can be used to detect transcripts or genomic sequences corresponding to one or more markers of the invention. The probe comprises a label group attached thereto, e.g., a radioisotope, a fluorescent compound, an enzyme, or an enzyme co-factor. Such probes can be used as part of a diagnostic test kit for identifying cells or tissues which misexpress the protein, such as by measuring levels of a nucleic acid molecule encoding the protein in a sample of cells from a subject, e.g., detecting mRNA levels or determining whether a gene encoding the protein has been mutated or deleted.

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The invention further encompasses nucleic acid molecules that differ, due to degeneracy of the genetic code, from the nucleotide sequence of nucleic acids encoding a protein which corresponds to a marker of the invention, and thus encode the same protein.

In addition to the nucleotide sequences described in the Tables, it will be appreciated by those skilled in the art that DNA sequence polymorphisms that lead to changes in the amino acid sequence can exist within a population (e.g., the human population). Such genetic polymorphisms can exist among individuals within a population due to natural allelic variation. An allele is one of a group of genes which occur alternatively at a given genetic locus. In addition, it will be appreciated that DNA polymorphisms that affect RNA expression levels can also exist that may affect the overall expression level of that gene (e.g., by affecting regulation or degradation).

As used herein, the phrase "allelic variant" refers to a nucleotide sequence which occurs at a given locus or to a polypeptide encoded by the nucleotide sequence.

As used herein, the terms "gene" and "recombinant gene" refer to nucleic acid molecules comprising an open reading frame encoding a polypeptide corresponding to a marker of the invention. Such natural allelic variations can typically result in 0.1-0.5% variance in the nucleotide sequence of a given gene. Alternative alleles can be identified by sequencing the gene of interest in a number of different individuals. This can be readily carried out by using hybridization probes to identify the same genetic locus in a variety of individuals. Any and all such nucleotide variations and resulting amino acid polymorphisms or variations that are the result of natural allelic variation and that do not alter the functional activity are intended to be within the scope of the invention.

In another embodiment, an isolated nucleic acid molecule of the invention is at least 7, 15, 20, 25, 30, 40, 60, 80, 100, 150, 200, 250, 300, 350, 400, 450, 550, 650, 700, 800, 900, 1000, 1200, 1400, 1600, 1800, 2000, 2200, 2400, 2600, 2800, 3000, 3500, 4000, 4500, or more nucleotides in length and hybridizes under stringent conditions to a nucleic acid corresponding to a marker of the invention or to a nucleic acid encoding a protein corresponding to a marker of the invention. As used herein, the term "hybridizes under stringent conditions" is intended to describe conditions for hybridization and washing under which nucleotide sequences at least 75% (80%, 85%, preferably 90%) identical to each other typically remain hybridized to each other. Such stringent

conditions are known to those skilled in the art and can be found in sections 6.3.1-6.3.6 of *Current Protocols in Molecular Biology*, John Wiley & Sons, N.Y. (1989). A preferred, non-limiting example of stringent hybridization conditions for annealing two single-stranded DNA each of which is at least about 100 bases in length and/or for annealing a single-stranded DNA and a single-stranded RNA each of which is at least about 100 bases in length, are hybridization in 6X sodium chloride/sodium citrate (SSC) at about 45°C, followed by one or more washes in 0.2X SSC, 0.1% SDS at 50-65°C. Further preferred hybridization conditions are taught in Lockhart, *et al.*, Nature Biotechnology, Volume 14, 1996 August:1675-1680; Breslauer, *et al.*, Proc. Natl. Acad. Sci. USA, Volume 83, 1986 June: 3746-3750; Van Ness, *et al.*, Nucleic Acids Research, Volume 19, No. 19, 1991 September: 5143-5151; McGraw, *et al.*, BioTechniques, Volume 8, No. 6 1990: 674-678; and Milner, *et al.*, Nature Biotechnology, Volume 15, 1997 June: 537-541, all expressly incorporated by reference.

In addition to naturally-occurring allelic variants of a nucleic acid molecule of the invention that can exist in the population, the skilled artisan will further appreciate that sequence changes can be introduced by mutation thereby leading to changes in the amino acid sequence of the encoded protein, without altering the biological activity of the protein encoded thereby. For example, one can make nucleotide substitutions leading to amino acid substitutions at "non-essential" amino acid residues. A "non-essential" amino acid residue is a residue that can be altered from the wild-type sequence without altering the biological activity, whereas an "essential" amino acid residue is required for biological activity. For example, amino acid residues that are not conserved or only semi-conserved among homologs of various species may be non-essential for activity and thus would be likely targets for alteration. Alternatively, amino acid residues that are conserved among the homologs of various species (e.g., murine and human) may be essential for activity and thus would not be likely targets for alteration.

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Accordingly, another aspect of the invention pertains to nucleic acid molecules encoding a polypeptide of the invention that contain changes in amino acid residues that are not essential for activity. Such polypeptides differ in amino acid sequence from the naturally-occurring proteins which correspond to the markers of the invention, yet retain biological activity. In one embodiment, such a protein has an amino acid sequence that

is at least about 40% identical, 50%, 60%, 70%, 80%, 90%, 95%, or 98% identical to the amino acid sequence of one of the proteins which correspond to the markers of the invention.

An isolated nucleic acid molecule encoding a variant protein can be created by introducing one or more nucleotide substitutions, additions or deletions into the nucleotide sequence of nucleic acids of the invention, such that one or more amino acid residue substitutions, additions, or deletions are introduced into the encoded protein. Mutations can be introduced by standard techniques, such as site-directed mutagenesis and PCR-mediated mutagenesis. Preferably, conservative amino acid substitutions are made at one or more predicted non-essential amino acid residues. A "conservative amino acid substitution" is one in which the amino acid residue is replaced with an amino acid residue having a similar side chain. Families of amino acid residues having similar side chains have been defined in the art. These families include amino acids with basic side chains (e.g., lysine, arginine, histidine), acidic side chains (e.g., aspartic acid, glutamic acid), uncharged polar side chains (e.g., glycine, asparagine, glutamine, serine, threonine, tyrosine, cysteine), non-polar side chains (e.g., alanine, valine, leucine, isoleucine, proline, phenylalanine, methionine, tryptophan), beta-branched side chains (e.g., threonine, valine, isoleucine) and aromatic side chains (e.g., tyrosine, phenylalanine, tryptophan, histidine). Alternatively, mutations can be introduced randomly along all or part of the coding sequence, such as by saturation mutagenesis, and the resultant mutants can be screened for biological activity to identify mutants that retain activity. Following mutagenesis, the encoded protein can be expressed recombinantly and the activity of the protein can be determined.

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The present invention encompasses antisense nucleic acid molecules, *i.e.*, molecules which are complementary to a sense nucleic acid of the invention, *e.g.*, complementary to the coding strand of a double-stranded cDNA molecule corresponding to a marker of the invention or complementary to an mRNA sequence corresponding to a marker of the invention. Accordingly, an antisense nucleic acid of the invention can hydrogen bond to (*i.e.* anneal with) a sense nucleic acid of the invention. The antisense nucleic acid can be complementary to an entire coding strand, or to only a portion thereof, *e.g.*, all or part of the protein coding region (or open reading frame). An antisense nucleic acid molecule can also be antisense to all or part of a non-

coding region of the coding strand of a nucleotide sequence encoding a polypeptide of the invention. The non-coding regions ("5' and 3' untranslated regions") are the 5' and 3' sequences which flank the coding region and are not translated into amino acids.

An antisense oligonucleotide can be, for example, about 5, 10, 15, 20, 25, 30, 35, 40, 45, or 50 or more nucleotides in length. An antisense nucleic acid of the invention can be constructed using chemical synthesis and enzymatic ligation reactions using procedures known in the art. For example, an antisense nucleic acid (e.g., an antisense oligonucleotide) can be chemically synthesized using naturally occurring nucleotides or variously modified nucleotides designed to increase the biological stability of the molecules or to increase the physical stability of the duplex formed between the 10 antisense and sense nucleic acids, e.g., phosphorothioate derivatives and acridine substituted nucleotides can be used. Examples of modified nucleotides which can be used to generate the antisense nucleic acid include 5-fluorouracil, 5-bromouracil, 5chlorouracil, 5-iodouracil, hypoxanthine, xanthine, 4-acetylcytosine, 5-(carboxyhydroxylmethyl) uracil, 5-carboxymethylaminomethyl-2-thiouridine, 5-15 carboxymethylaminomethyluracil, dihydrouracil, beta-D-galactosylqueosine, inosine, N6-isopentenyladenine, 1-methylguanine, 1-methylinosine, 2,2-dimethylguanine, 2methyladenine, 2-methylguanine, 3-methylcytosine, 5-methylcytosine, N6-adenine, 7methylguanine, 5-methylaminomethyluracil, 5-methoxyaminomethyl-2-thiouracil, beta-D-mannosylqueosine, 5'-methoxycarboxymethyluracil, 5-methoxyuracil, 2-methylthio-20 N6-isopentenyladenine, uracil-5-oxyacetic acid (v), wybutoxosine, pseudouracil, queosine, 2-thiocytosine, 5-methyl-2-thiouracil, 2-thiouracil, 4-thiouracil, 5methyluracil, uracil-5-oxyacetic acid methylester, uracil-5-oxyacetic acid (v), 5-methyl-2-thiouracil, 3-(3-amino-3-N-2-carboxypropyl) uracil, (acp3)w, and 2,6-diaminopurine. 25 Alternatively, the antisense nucleic acid can be produced biologically using an expression vector into which a nucleic acid has been sub-cloned in an antisense orientation (i.e., RNA transcribed from the inserted nucleic acid will be of an antisense orientation to a target nucleic acid of interest, described further in the following subsection).

The antisense nucleic acid molecules of the invention are typically administered to a subject or generated *in situ* such that they hybridize with or bind to cellular mRNA and/or genomic DNA encoding a polypeptide corresponding to a selected marker of the

invention to thereby inhibit expression of the marker, e.g., by inhibiting transcription and/or translation. The hybridization can be by conventional nucleotide complementarity to form a stable duplex, or, for example, in the case of an antisense nucleic acid molecule which binds to DNA duplexes, through specific interactions in the major groove of the double helix. Examples of a route of administration of antisense nucleic acid molecules of the invention includes direct injection at a tissue site or infusion of the antisense nucleic acid into a cervix-associated body fluid. Alternatively, antisense nucleic acid molecules can be modified to target selected cells and then administered systemically. For example, for systemic administration, antisense molecules can be modified such that they specifically bind to receptors or antigens expressed on a selected cell surface, e.g., by linking the antisense nucleic acid molecules to peptides or antibodies which bind to cell surface receptors or antigens. The antisense nucleic acid molecules can also be delivered to cells using the vectors described herein. To achieve sufficient intracellular concentrations of the antisense molecules, vector constructs in which the antisense nucleic acid molecule is placed under the control of a strong pol II or pol III promoter are preferred.

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An antisense nucleic acid molecule of the invention can be an α-anomeric nucleic acid molecule. An α-anomeric nucleic acid molecule forms specific double-stranded hybrids with complementary RNA in which, contrary to the usual α-units, the strands run parallel to each other (Gaultier *et al.*, 1987, *Nucleic Acids Res.* 15:6625-6641). The antisense nucleic acid molecule can also comprise a 2'-o-methylribonucleotide (Inoue *et al.*, 1987, *Nucleic Acids Res.* 15:6131-6148) or a chimeric RNA-DNA analogue (Inoue *et al.*, 1987, *FEBS Lett.* 215:327-330).

The invention also encompasses ribozymes. Ribozymes are catalytic RNA molecules with ribonuclease activity which are capable of cleaving a single-stranded nucleic acid, such as an mRNA, to which they have a complementary region. Thus, ribozymes (e.g., hammerhead ribozymes as described in Haselhoff and Gerlach, 1988, Nature 334:585-591) can be used to catalytically cleave mRNA transcripts to thereby inhibit translation of the protein encoded by the mRNA. A ribozyme having specificity for a nucleic acid molecule encoding a polypeptide corresponding to a marker of the invention can be designed based upon the nucleotide sequence of a cDNA corresponding to the marker. For example, a derivative of a *Tetrahymena* L-19 IVS

RNA can be constructed in which the nucleotide sequence of the active site is complementary to the nucleotide sequence to be cleaved (see Cech *et al.* U.S. Patent No. 4,987,071; and Cech *et al.* U.S. Patent No. 5,116,742). Alternatively, an mRNA encoding a polypeptide of the invention can be used to select a catalytic RNA having a specific ribonuclease activity from a pool of RNA molecules (see, *e.g.*, Bartel and Szostak, 1993, *Science* 261:1411-1418).

The invention also encompasses nucleic acid molecules which form triple helical structures. For example, expression of a polypeptide of the invention can be inhibited by targeting nucleotide sequences complementary to the regulatory region of the gene encoding the polypeptide (e.g., the promoter and/or enhancer) to form triple helical structures that prevent transcription of the gene in target cells. See generally Helene (1991) Anticancer Drug Des. 6(6):569-84; Helene (1992) Ann. N.Y. Acad. Sci. 660:27-36; and Maher (1992) Bioassays 14(12):807-15.

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In various embodiments, the nucleic acid molecules of the invention can be modified at the base moiety, sugar moiety or phosphate backbone to improve, e.g., the 15 stability, hybridization, or solubility of the molecule. For example, the deoxyribose phosphate backbone of the nucleic acids can be modified to generate peptide nucleic acids (see Hyrup et al., 1996, Bioorganic & Medicinal Chemistry 4(1): 5-23). As used herein, the terms "peptide nucleic acids" or "PNAs" refer to nucleic acid mimics, e.g., DNA mimics, in which the deoxyribose phosphate backbone is replaced by a 20 pseudopeptide backbone and only the four natural nucleobases are retained. The neutral backbone of PNAs has been shown to allow for specific hybridization to DNA and RNA under conditions of low ionic strength. The synthesis of PNA oligomers can be performed using standard solid phase peptide synthesis protocols as described in Hyrup et al. (1996), supra; Perry-O'Keefe et al. (1996) Proc. Natl. Acad. Sci. USA 93:14670-25 675.

PNAs can be used in therapeutic and diagnostic applications. For example, PNAs can be used as antisense or antigene agents for sequence-specific modulation of gene expression by, e.g., inducing transcription or translation arrest or inhibiting replication. PNAs can also be used, e.g., in the analysis of single base pair mutations in a gene by, e.g., PNA directed PCR clamping; as artificial restriction enzymes when used in combination with other enzymes, e.g., S1 nucleases (Hyrup (1996), supra; or as

probes or primers for DNA sequence and hybridization (Hyrup, 1996, *supra*; Perry-O'Keefe *et al.*, 1996, *Proc. Natl. Acad. Sci. USA* 93:14670-675).

In another embodiment, PNAs can be modified, e.g., to enhance their stability or cellular uptake, by attaching lipophilic or other helper groups to PNA, by the formation of PNA-DNA chimeras, or by the use of liposomes or other techniques of drug delivery known in the art. For example, PNA-DNA chimeras can be generated which can combine the advantageous properties of PNA and DNA. Such chimeras allow DNA recognition enzymes, e.g., RNASE H and DNA polymerases, to interact with the DNA portion while the PNA portion would provide high binding affinity and specificity. PNA-DNA chimeras can be linked using linkers of appropriate lengths selected in terms of base stacking, number of bonds between the nucleobases, and orientation (Hyrup, 1996, supra). The synthesis of PNA-DNA chimeras can be performed as described in Hyrup (1996), supra, and Finn et al. (1996) Nucleic Acids Res. 24(17):3357-63. For example, a DNA chain can be synthesized on a solid support using standard phosphoramidite coupling chemistry and modified nucleoside analogs. Compounds such as 5'-(4-methoxytrityl)amino-5'-deoxy-thymidine phosphoramidite can be used as a link between the PNA and the 5' end of DNA (Mag et al., 1989, Nucleic Acids Res. 17:5973-88). PNA monomers are then coupled in a step-wise manner to produce a chimeric molecule with a 5' PNA segment and a 3' DNA segment (Finn et al., 1996, Nucleic Acids Res. 24(17):3357-63). Alternatively, chimeric molecules can be 20 synthesized with a 5' DNA segment and a 3' PNA segment (Peterser et al., 1975, Bioorganic Med. Chem. Lett. 5:1119-11124).

In other embodiments, the oligonucleotide can include other appended groups such as peptides (e.g., for targeting host cell receptors in vivo), or agents facilitating transport across the cell membrane (see, e.g., Letsinger et al., 1989, Proc. Natl. Acad. Sci. USA 86:6553-6556; Lemaitre et al., 1987, Proc. Natl. Acad. Sci. USA 84:648-652; PCT Publication No. WO 88/09810) or the blood-brain barrier (see, e.g., PCT Publication No. WO 89/10134). In addition, oligonucleotides can be modified with hybridization-triggered cleavage agents (see, e.g., Krol et al., 1988, Bio/Techniques 6:958-976) or intercalating agents (see, e.g., Zon, 1988, Pharm. Res. 5:539-549). To this end, the oligonucleotide can be conjugated to another molecule, e.g., a peptide,

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hybridization triggered cross-linking agent, transport agent, hybridization-triggered cleavage agent, etc.

The invention also includes molecular beacon nucleic acids having at least one region which is complementary to a nucleic acid of the invention, such that the molecular beacon is useful for quantitating the presence of the nucleic acid of the invention in a sample. A "molecular beacon" nucleic acid is a nucleic acid comprising a pair of complementary regions and having a fluorophore and a fluorescent quencher associated therewith. The fluorophore and quencher are associated with different portions of the nucleic acid in such an orientation that when the complementary regions are annealed with one another, fluorescence of the fluorophore is quenched by the quencher. When the complementary regions of the nucleic acid are not annealed with one another, fluorescence of the fluorophore is quenched to a lesser degree. Molecular beacon nucleic acids are described, for example, in U.S. Patent 5,876,930.

15 II. Isolated Proteins and Antibodies

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One aspect of the invention pertains to novel isolated proteins which correspond to individual markers of the invention, and biologically active portions thereof, as well as polypeptide fragments suitable for use as immunogens to raise antibodies directed against a polypeptide corresponding to a marker of the invention. In one embodiment, the native polypeptide corresponding to a marker can be isolated from cells or tissue sources by an appropriate purification scheme using standard protein purification techniques. In another embodiment, polypeptides corresponding to a marker of the invention are produced by recombinant DNA techniques. Alternative to recombinant expression, a polypeptide corresponding to a marker of the invention can be synthesized chemically using standard peptide synthesis techniques.

An "isolated" or "purified" protein or biologically active portion thereof is substantially free of cellular material or other contaminating proteins from the cell or tissue source from which the protein is derived, or substantially free of chemical precursors or other chemicals when chemically synthesized. The language "substantially free of cellular material" includes preparations of protein in which the protein is separated from cellular components of the cells from which it is isolated or recombinantly produced. Thus, protein that is substantially free of cellular material

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includes preparations of protein having less than about 30%, 20%, 10%, or 5% (by dry weight) of heterologous protein (also referred to herein as a "contaminating protein"). When the protein or biologically active portion thereof is recombinantly produced, it is also preferably substantially free of culture medium, *i.e.*, culture medium represents less than about 20%, 10%, or 5% of the volume of the protein preparation. When the protein is produced by chemical synthesis, it is preferably substantially free of chemical precursors or other chemicals, *i.e.*, it is separated from chemical precursors or other chemicals which are involved in the synthesis of the protein. Accordingly such preparations of the protein have less than about 30%, 20%, 10%, 5% (by dry weight) of chemical precursors or compounds other than the polypeptide of interest.

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Biologically active portions of a polypeptide corresponding to a marker of the invention include polypeptides comprising amino acid sequences sufficiently identical to or derived from the amino acid sequence of the protein corresponding to the marker (e.g., the amino acid sequence listed in the GenBank and IMAGE Consortium database records described herein), which include fewer amino acids than the full length protein, and exhibit at least one activity of the corresponding full-length protein. Typically, biologically active portions comprise a domain or motif with at least one activity of the corresponding protein. A biologically active portion of a protein of the invention can be a polypeptide which is, for example, 10, 25, 50, 100 or more amino acids in length. Moreover, other biologically active portions, in which other regions of the protein are deleted, can be prepared by recombinant techniques and evaluated for one or more of the functional activities of the native form of a polypeptide of the invention.

Preferred polypeptides are encoded by the nucleotide sequences in Tables 1-4. Other useful proteins are substantially identical (e.g., at least about 40%, preferably 50%, 60%, 70%, 80%, 90%, 95%, or 99%) to one of these sequences and retain the functional activity of the protein of the corresponding naturally-occurring protein yet differ in amino acid sequence due to natural allelic variation or mutagenesis.

To determine the percent identity of two amino acid sequences or of two nucleic acids, the sequences are aligned for optimal comparison purposes (e.g., gaps can be introduced in the sequence of a first amino acid or nucleic acid sequence for optimal alignment with a second amino or nucleic acid sequence). The amino acid residues or nucleotides at corresponding amino acid positions or nucleotide positions are then

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compared. When a position in the first sequence is occupied by the same amino acid residue or nucleotide as the corresponding position in the second sequence, then the molecules are identical at that position. The percent identity between the two sequences is a function of the number of identical positions shared by the sequences (i.e., % identity = # of identical positions/total # of positions (e.g., overlapping positions) x100). In one embodiment the two sequences are the same length.

The determination of percent identity between two sequences can be accomplished using a mathematical algorithm. A preferred, non-limiting example of a mathematical algorithm utilized for the comparison of two sequences is the algorithm of Karlin and Altschul (1990) Proc. Natl. Acad. Sci. USA 87:2264-2268, modified as in 10 Karlin and Altschul (1993) Proc. Natl. Acad. Sci. USA 90:5873-5877. Such an algorithm is incorporated into the NBLAST and XBLAST programs of Altschul, et al. (1990) J. Mol. Biol. 215:403-410. BLAST nucleotide searches can be performed with the NBLAST program, score = 100, wordlength = 12 to obtain nucleotide sequences homologous to a nucleic acid molecules of the invention. BLAST protein searches can 15 be performed with the XBLAST program, score = 50, wordlength = 3 to obtain amino acid sequences homologous to a protein molecules of the invention. To obtain gapped alignments for comparison purposes, Gapped BLAST can be utilized as described in Altschul et al. (1997) Nucleic Acids Res. 25:3389-3402. Alternatively, PSI-Blast can be used to perform an iterated search which detects distant relationships between 20 molecules. When utilizing BLAST, Gapped BLAST, and PSI-Blast programs, the default parameters of the respective programs (e.g., XBLAST and NBLAST) can be used. See http://www.ncbi.nlm.nih.gov. Another preferred, non-limiting example of a mathematical algorithm utilized for the comparison of sequences is the algorithm of Myers and Miller, (1988) CABIOS 4:11-17. Such an algorithm is incorporated into the 25 ALIGN program (version 2.0) which is part of the GCG sequence alignment software package. When utilizing the ALIGN program for comparing amino acid sequences, a PAM120 weight residue table, a gap length penalty of 12, and a gap penalty of 4 can be used. Yet another useful algorithm for identifying regions of local sequence similarity 30 and alignment is the FASTA algorithm as described in Pearson and Lipman (1988) Proc. Natl. Acad. Sci. USA 85:2444-2448. When using the FASTA algorithm for

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comparing nucleotide or amino acid sequences, a PAM120 weight residue table can, for example, be used with a k-tuple value of 2.

The percent identity between two sequences can be determined using techniques similar to those described above, with or without allowing gaps. In calculating percent identity, only exact matches are counted.

The invention also provides chimeric or fusion proteins corresponding to a marker of the invention. As used herein, a "chimeric protein" or "fusion protein" comprises all or part (preferably a biologically active part) of a polypeptide corresponding to a marker of the invention operably linked to a heterologous polypeptide (i.e., a polypeptide other than the polypeptide corresponding to the marker). Within the fusion protein, the term "operably linked" is intended to indicate that the polypeptide of the invention and the heterologous polypeptide are fused in-frame to each other. The heterologous polypeptide can be fused to the amino-terminus or the carboxyl-terminus of the polypeptide of the invention.

One useful fusion protein is a GST fusion protein in which a polypeptide corresponding to a marker of the invention is fused to the carboxyl terminus of GST sequences. Such fusion proteins can facilitate the purification of a recombinant polypeptide of the invention.

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In another embodiment, the fusion protein contains a heterologous signal sequence at its amino terminus. For example, the native signal sequence of a polypeptide corresponding to a marker of the invention can be removed and replaced with a signal sequence from another protein. For example, the gp67 secretory sequence of the baculovirus envelope protein can be used as a heterologous signal sequence (Ausubel et al., ed., Current Protocols in Molecular Biology, John Wiley & Sons, NY, 25 1992). Other examples of eukaryotic heterologous signal sequences include the secretory sequences of melittin and human placental alkaline phosphatase (Stratagene; La Jolla, California). In yet another example, useful prokaryotic heterologous signal sequences include the phoA secretory signal (Sambrook et al., supra) and the protein A secretory signal (Pharmacia Biotech; Piscataway, New Jersey).

In yet another embodiment, the fusion protein is an immunoglobulin fusion protein in which all or part of a polypeptide corresponding to a marker of the invention is fused to sequences derived from a member of the immunoglobulin protein family.

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The immunoglobulin fusion proteins of the invention can be incorporated into pharmaceutical compositions and administered to a subject to inhibit an interaction between a ligand (soluble or membrane-bound) and a protein on the surface of a cell (receptor), to thereby suppress signal transduction *in vivo*. The immunoglobulin fusion protein can be used to affect the bioavailability of a cognate ligand of a polypeptide of the invention. Inhibition of ligand/receptor interaction can be useful therapeutically, both for treating proliferative and differentiative disorders and for modulating (*e.g.* promoting or inhibiting) cell survival. Moreover, the immunoglobulin fusion proteins of the invention can be used as immunogens to produce antibodies directed against a polypeptide of the invention in a subject, to purify ligands and in screening assays to identify molecules which inhibit the interaction of receptors with ligands.

Chimeric and fusion proteins of the invention can be produced by standard recombinant DNA techniques. In another embodiment, the fusion gene can be synthesized by conventional techniques including automated DNA synthesizers.

Alternatively, PCR amplification of gene fragments can be carried out using anchor primers which give rise to complementary overhangs between two consecutive gene fragments which can subsequently be annealed and re-amplified to generate a chimeric gene sequence (see, e.g., Ausubel et al., supra). Moreover, many expression vectors are commercially available that already encode a fusion moiety (e.g., a GST polypeptide).

A nucleic acid encoding a polypeptide of the invention can be cloned into such an expression vector such that the fusion moiety is linked in-frame to the polypeptide of the invention.

A signal sequence can be used to facilitate secretion and isolation of the secreted protein or other proteins of interest. Signal sequences are typically characterized by a core of hydrophobic amino acids which are generally cleaved from the mature protein during secretion in one or more cleavage events. Such signal peptides contain processing sites that allow cleavage of the signal sequence from the mature proteins as they pass through the secretory pathway. Thus, the invention pertains to the described polypeptides having a signal sequence, as well as to polypeptides from which the signal sequence has been proteolytically cleaved (*i.e.*, the cleavage products). In one embodiment, a nucleic acid sequence encoding a signal sequence can be operably linked in an expression vector to a protein of interest, such as a protein which is ordinarily not

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secreted or is otherwise difficult to isolate. The signal sequence directs secretion of the protein, such as from a eukaryotic host into which the expression vector is transformed, and the signal sequence is subsequently or concurrently cleaved. The protein can then be readily purified from the extracellular medium by art recognized methods.

Alternatively, the signal sequence can be linked to the protein of interest using a sequence which facilitates purification, such as with a GST domain.

The present invention also pertains to variants of the polypeptides corresponding to individual markers of the invention. Such variants have an altered amino acid sequence which can function as either agonists (mimetics) or as antagonists. Variants can be generated by mutagenesis, e.g., discrete point mutation or truncation. An agonist can retain substantially the same, or a subset, of the biological activities of the naturally occurring form of the protein. An antagonist of a protein can inhibit one or more of the activities of the naturally occurring form of the protein by, for example, competitively binding to a downstream or upstream member of a cellular signaling cascade which includes the protein of interest. Thus, specific biological effects can be elicited by treatment with a variant of limited function. Treatment of a subject with a variant having a subset of the biological activities of the naturally occurring form of the protein can have fewer side effects in a subject relative to treatment with the naturally occurring form of the protein.

Variants of a protein of the invention which function as either agonists (mimetics) or as antagonists can be identified by screening combinatorial libraries of mutants, e.g., truncation mutants, of the protein of the invention for agonist or antagonist activity. In one embodiment, a variegated library of variants is generated by combinatorial mutagenesis at the nucleic acid level and is encoded by a variegated gene library. A variegated library of variants can be produced by, for example, enzymatically ligating a mixture of synthetic oligonucleotides into gene sequences such that a degenerate set of potential protein sequences is expressible as individual polypeptides, or alternatively, as a set of larger fusion proteins (e.g., for phage display). There are a variety of methods which can be used to produce libraries of potential variants of the polypeptides of the invention from a degenerate oligonucleotide sequence. Methods for synthesizing degenerate oligonucleotides are known in the art (see, e.g., Narang, 1983,

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Tetrahedron 39:3; Itakura et al., 1984, Annu. Rev. Biochem. 53:323; Itakura et al., 1984, Science 198:1056; Ike et al., 1983 Nucleic Acid Res. 11:477).

In addition, libraries of fragments of the coding sequence of a polypeptide corresponding to a marker of the invention can be used to generate a variegated population of polypeptides for screening and subsequent selection of variants. For example, a library of coding sequence fragments can be generated by treating a double stranded PCR fragment of the coding sequence of interest with a nuclease under conditions wherein nicking occurs only about once per molecule, denaturing the double stranded DNA, renaturing the DNA to form double stranded DNA which can include sense/antisense pairs from different nicked products, removing single stranded portions from reformed duplexes by treatment with S1 nuclease, and ligating the resulting fragment library into an expression vector. By this method, an expression library can be derived which encodes amino terminal and internal fragments of various sizes of the protein of interest.

Several techniques are known in the art for screening gene products of combinatorial libraries made by point mutations or truncation, and for screening cDNA libraries for gene products having a selected property. The most widely used techniques, which are amenable to high through-put analysis, for screening large gene libraries typically include cloning the gene library into replicable expression vectors, transforming appropriate cells with the resulting library of vectors, and expressing the combinatorial genes under conditions in which detection of a desired activity facilitates isolation of the vector encoding the gene whose product was detected. Recursive ensemble mutagenesis (REM), a technique which enhances the frequency of functional mutants in the libraries, can be used in combination with the screening assays to identify variants of a protein of the invention (Arkin and Yourvan, 1992, *Proc. Natl. Acad. Sci. USA 89:7811-7815*; Delgrave *et al.*, 1993, *Protein Engineering* 6(3):327-331).

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An isolated polypeptide corresponding to a marker of the invention, or a fragment thereof, can be used as an immunogen to generate antibodies using standard techniques for polyclonal and monoclonal antibody preparation. The full-length polypeptide or protein can be used or, alternatively, the invention provides antigenic peptide fragments for use as immunogens. The antigenic peptide of a protein of the invention comprises at least 8 (preferably 10, 15, 20, or 30 or more) amino acid residues

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of the amino acid sequence of one of the polypeptides of the invention, and encompasses an epitope of the protein such that an antibody raised against the peptide forms a specific immune complex with a marker of the invention to which the protein corresponds. Preferred epitopes encompassed by the antigenic peptide are regions that are located on the surface of the protein, *e.g.*, hydrophilic regions. Hydrophobicity sequence analysis, hydrophilicity sequence analysis, or similar analyses can be used to identify hydrophilic regions.

An immunogen typically is used to prepare antibodies by immunizing a suitable (*i.e.* immunocompetent) subject such as a rabbit, goat, mouse, or other mammal or vertebrate. An appropriate immunogenic preparation can contain, for example, recombinantly-expressed or chemically-synthesized polypeptide. The preparation can further include an adjuvant, such as Freund's complete or incomplete adjuvant, or a similar immunostimulatory agent.

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Accordingly, another aspect of the invention pertains to antibodies directed against a polypeptide of the invention. The terms "antibody" and "antibody substance" as used interchangeably herein refer to immunoglobulin molecules and immunologically active portions of immunoglobulin molecules, *i.e.*, molecules that contain an antigen binding site which specifically binds an antigen, such as a polypeptide of the invention, e.g., an epitope of a polypeptide of the invention. A molecule which specifically binds to a given polypeptide of the invention is a molecule which binds the polypeptide, but does not substantially bind other molecules in a sample, *e.g.*, a biological sample, which naturally contains the polypeptide. Examples of immunologically active portions of immunoglobulin molecules include F(ab) and F(ab')₂ fragments which can be generated by treating the antibody with an enzyme such as pepsin. The invention provides polyclonal and monoclonal antibodies. The term "monoclonal antibody" or "monoclonal antibody composition", as used herein, refers to a population of antibody molecules that contain only one species of an antigen binding site capable of immunoreacting with a particular epitope.

Polyclonal antibodies can be prepared as described above by immunizing a suitable subject with a polypeptide of the invention as an immunogen. Preferred polyclonal antibody compositions are ones that have been selected for antibodies directed against a polypeptide or polypeptides of the invention. Particularly preferred

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polyclonal antibody preparations are ones that contain only antibodies directed against a polypeptide or polypeptides of the invention. Particularly preferred immunogen compositions are those that contain no other human proteins such as, for example, immunogen compositions made using a non-human host cell for recombinant expression of a polypeptide of the invention. In such a manner, the only human epitope or epitopes recognized by the resulting antibody compositions raised against this immunogen will be present as part of a polypeptide or polypeptides of the invention.

The antibody titer in the immunized subject can be monitored over time by standard techniques, such as with an enzyme linked immunosorbent assay (ELISA) using immobilized polypeptide. If desired, the antibody molecules can be harvested or 10 isolated from the subject (e.g., from the blood or serum of the subject) and further purified by well-known techniques, such as protein A chromatography to obtain the IgG fraction. Alternatively, antibodies specific for a protein or polypeptide of the invention can be selected or (e.g., partially purified) or purified by, e.g., affinity chromatography. For example, a recombinantly expressed and purified (or partially purified) protein of 15 the invention is produced as described herein, and covalently or non-covalently coupled to a solid support such as, for example, a chromatography column. The column can then be used to affinity purify antibodies specific for the proteins of the invention from a sample containing antibodies directed against a large number of different epitopes, 20 thereby generating a substantially purified antibody composition, i.e., one that is substantially free of contaminating antibodies. By a substantially purified antibody composition is meant, in this context, that the antibody sample contains at most only 30% (by dry weight) of contaminating antibodies directed against epitopes other than those of the desired protein or polypeptide of the invention, and preferably at most 20%, yet more preferably at most 10%, and most preferably at most 5% (by dry weight) of the sample is contaminating antibodies. A purified antibody composition means that at least 99% of the antibodies in the composition are directed against the desired protein or polypeptide of the invention.

At an appropriate time after immunization, e.g., when the specific antibody titers are highest, antibody-producing cells can be obtained from the subject and used to prepare monoclonal antibodies by standard techniques, such as the hybridoma technique originally described by Kohler and Milstein (1975) *Nature* 256:495-497, the human B

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cell hybridoma technique (see Kozbor et al., 1983, Immunol. Today 4:72), the EBV-hybridoma technique (see Cole et al., pp. 77-96 In Monoclonal Antibodies and Cancer Therapy, Alan R. Liss, Inc., 1985) or trioma techniques. The technology for producing hybridomas is well known (see generally Current Protocols in Immunology, Coligan et al. ed., John Wiley & Sons, New York, 1994). Hybridoma cells producing a monoclonal antibody of the invention are detected by screening the hybridoma culture supernatants for antibodies that bind the polypeptide of interest, e.g., using a standard ELISA assay.

Alternative to preparing monoclonal antibody-secreting hybridomas, a 10 monoclonal antibody directed against a polypeptide of the invention can be identified and isolated by screening a recombinant combinatorial immunoglobulin library (e.g., an antibody phage display library) with the polypeptide of interest. Kits for generating and screening phage display libraries are commercially available (e.g., the Pharmacia Recombinant Phage Antibody System, Catalog No. 27-9400-01; and the Stratagene SurfZAP Phage Display Kit, Catalog No. 240612). Additionally, examples of methods 15 and reagents particularly amenable for use in generating and screening antibody display library can be found in, for example, U.S. Patent No. 5,223,409; PCT Publication No. WO 92/18619; PCT Publication No. WO 91/17271; PCT Publication No. WO 92/20791; PCT Publication No. WO 92/15679; PCT Publication No. WO 93/01288; PCT Publication No. WO 92/01047; PCT Publication No. WO 92/09690; PCT Publication No. WO 90/02809; Fuchs et al. (1991) Bio/Technology 9:1370-1372; Hay et al. (1992) Hum. Antibod. Hybridomas 3:81-85; Huse et al. (1989) Science 246:1275-1281; Griffiths et al. (1993) EMBO J. 12:725-734.

Additionally, recombinant antibodies, such as chimeric and humanized monoclonal antibodies, comprising both human and non-human portions, which can be made using standard recombinant DNA techniques, are within the scope of the invention. A chimeric antibody is a molecule in which different portions are derived from different animal species, such as those having a variable region derived from a murine mAb and a human immunoglobulin constant region. (See, e.g., Cabilly et al., U.S. Patent No. 4,816,567; and Boss et al., U.S. Patent No. 4,816,397, which are incorporated herein by reference in their entirety.) Humanized antibodies are antibody molecules from non-human species having one or more complementarily determining

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regions (CDRs) from the non-human species and a framework region from a human immunoglobulin molecule. (See, e.g., Queen, U.S. Patent No. 5,585,089, which is incorporated herein by reference in its entirety.) Such chimeric and humanized monoclonal antibodies can be produced by recombinant DNA techniques known in the art, for example using methods described in PCT Publication No. WO 87/02671; European Patent Application 184,187; European Patent Application 171,496; European Patent Application 173,494; PCT Publication No. WO 86/01533; U.S. Patent No. 4,816,567; European Patent Application 125,023; Better et al. (1988) Science 240:1041-1043; Liu et al. (1987) Proc. Natl. Acad. Sci. USA 84:3439-3443; Liu et al. (1987) J. Immunol. 139:3521-3526; Sun et al. (1987) Proc. Natl. Acad. Sci. USA 84:214-218; · 10 Nishimura et al. (1987) Cancer Res. 47:999-1005; Wood et al. (1985) Nature 314:446-449; and Shaw et al. (1988) J. Natl. Cancer Inst. 80:1553-1559); Morrison (1985) Science 229:1202-1207; Oi et al. (1986) Bio/Techniques 4:214; U.S. Patent 5,225,539; Jones et al. (1986) Nature 321:552-525; Verhoeyan et al. (1988) Science 239:1534; and Beidler et al. (1988) J. Immunol. 141:4053-4060.

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Antibodies of the invention may be used as therapeutic agents in treating cancers. In a preferred embodiment, completely human antibodies of the invention are used for therapeutic treatment of human cancer patients, particularly those having cervical cancer. Such antibodies can be produced, for example, using transgenic mice which are incapable of expressing endogenous immunoglobulin heavy and light chains genes, but which can express human heavy and light chain genes. The transgenic mice are immunized in the normal fashion with a selected antigen, e.g., all or a portion of a polypeptide corresponding to a marker of the invention. Monoclonal antibodies directed against the antigen can be obtained using conventional hybridoma technology. The human immunoglobulin transgenes harbored by the transgenic mice rearrange during B cell differentiation, and subsequently undergo class switching and somatic mutation. Thus, using such a technique, it is possible to produce therapeutically useful IgG, IgA and IgE antibodies. For an overview of this technology for producing human antibodies, see Lonberg and Huszar (1995) Int. Rev. Immunol. 13:65-93). For a detailed discussion of this technology for producing human antibodies and human monoclonal antibodies and protocols for producing such antibodies, see, e.g., U.S. Patent 5,625,126; U.S. Patent 5,633,425; U.S. Patent 5,569,825; U.S. Patent 5,661,016; and U.S. Patent

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5,545,806. In addition, companies such as Abgenix, Inc. (Freemont, CA), can be engaged to provide human antibodies directed against a selected antigen using technology similar to that described above.

Completely human antibodies which recognize a selected epitope can be generated using a technique referred to as "guided selection." In this approach a selected non-human monoclonal antibody, e.g., a murine antibody, is used to guide the selection of a completely human antibody recognizing the same epitope (Jespers et al., 1994, Bio/technology 12:899-903).

An antibody directed against a polypeptide corresponding to a marker of the invention (e.g., a monoclonal antibody) can be used to isolate the polypeptide by 10 standard techniques, such as affinity chromatography or immunoprecipitation. Moreover, such an antibody can be used to detect the marker (e.g., in a cellular lysate or cell supernatant) in order to evaluate the level and pattern of expression of the marker. The antibodies can also be used diagnostically to monitor protein levels in tissues or body fluids (e.g. in an ovary-associated body fluid) as part of a clinical testing procedure, e.g., to, for example, determine the efficacy of a given treatment regimen. Detection can be facilitated by coupling the antibody to a detectable substance. Examples of detectable substances include various enzymes, prosthetic groups, fluorescent materials, luminescent materials, bioluminescent materials, and radioactive materials. Examples of suitable enzymes include horseradish peroxidase, alkaline 20 phosphatase, β-galactosidase, or acetylcholinesterase; examples of suitable prosthetic group complexes include streptavidin/biotin and avidin/biotin; examples of suitable fluorescent materials include umbelliferone, fluorescein, fluorescein isothiocyanate, rhodamine, dichlorotriazinylamine fluorescein, dansyl chloride or phycoerythrin; an example of a luminescent material includes luminol; examples of bioluminescent 25 materials include luciferase, luciferin, and aequorin, and examples of suitable radioactive material include ¹²⁵I, ¹³¹I, ³⁵S or ³H.

Further, an antibody (or fragment thereof) can be conjugated to a therapeutic moiety such as a cytotoxin, a therapeutic agent or a radioactive metal ion. A cytotoxin or cytotoxic agent includes any agent that is detrimental to cells. Examples include taxol, cytochalasin B, gramicidin D, ethidium bromide, emetine, mitomycin, etoposide, tenoposide, vincristine, vinblastine, colchicin, doxorubicin, daunorubicin, dihydroxy

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anthracin dione, mitoxantrone, mithramycin, actinomycin D, 1-dehydrotestosterone, glucocorticoids, procaine, tetracaine, lidocaine, propranolol, and puromycin and analogs or homologs thereof. Therapeutic agents include, but are not limited to, antimetabolites (e.g., methotrexate, 6-mercaptopurine, 6-thioguanine, cytarabine, 5-fluorouracil decarbazine), alkylating agents (e.g., mechlorethamine, thioepa chlorambucil, melphalan, carmustine (BSNU) and lomustine (CCNU), cyclothosphamide, busulfan, dibromomannitol, streptozotocin, mitomycin C, and cis-dichlorodiamine platinum (II) (DDP) cisplatin), anthracyclines (e.g., daunorubicin (formerly daunomycin) and doxorubicin), antibiotics (e.g., dactinomycin (formerly actinomycin), bleomycin, mithramycin, and anthramycin (AMC)), and anti-mitotic agents (e.g., vincristine and vinblastine).

The conjugates of the invention can be used for modifying a given biological response, the drug moiety is not to be construed as limited to classical chemical therapeutic agents. For example, the drug moiety may be a protein or polypeptide possessing a desired biological activity. Such proteins may include, for example, a toxin such as abrin, ricin A, pseudomonas exotoxin, or diphtheria toxin; a protein such as tumor necrosis factor, alpha.-interferon, beta.-interferon, nerve growth factor, platelet derived growth factor, tissue plasminogen activator; or, biological response modifiers such as, for example, lymphokines, interleukin-1 ("IL-1"), interleukin-2 ("IL-2"), interleukin-6 ("IL-6"), granulocyte macrophase colony stimulating factor ("GM-CSF"), granulocyte colony stimulating factor ("G-CSF"), or other growth factors.

Techniques for conjugating such therapeutic moiety to antibodies are well known, see, e.g., Arnon et al., "Monoclonal Antibodies For Immunotargeting Of Drugs In Cancer Therapy", in Monoclonal Antibodies And Cancer Therapy, Reisfeld et al. (eds.), pp. 243-56 (Alan R. Liss, Inc. 1985); Hellstrom et al., "Antibodies For Drug Delivery", in Controlled Drug Delivery (2nd Ed.), Robinson et al. (eds.), pp. 623-53 (Marcel Dekker, Inc. 1987); Thorpe, "Antibody Carriers Of Cytotoxic Agents In Cancer Therapy: A Review", in Monoclonal Antibodies '84: Biological And Clinical Applications, Pinchera et al. (eds.), pp. 475-506 (1985); "Analysis, Results, And Future Prospective Of The Therapeutic Use Of Radiolabeled Antibody In Cancer Therapy", in Monoclonal Antibodies For Cancer Detection And Therapy, Baldwin et al. (eds.), pp.

303-16 (Academic Press 1985), and Thorpe et al., "The Preparation And Cytotoxic Properties Of Antibody-Toxin Conjugates", Immunol. Rev., 62:119-58 (1982).

Alternatively, an antibody can be conjugated to a second antibody to form an antibody heteroconjugate as described by Segal in U.S. Patent No. 4,676,980.

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Accordingly, in one aspect, the invention provides substantially purified antibodies or fragments thereof, and non-human antibodies or fragments thereof, which antibodies or fragments specifically bind to a polypeptide comprising an amino acid sequence selected from the group consisting of the amino acid sequences of the present invention, an amino acid sequence encoded by the cDNA of the present invention, a fragment of at least 15 amino acid residues of an amino acid sequence of the present invention, an amino acid sequence which is at least 95% identical to the amino acid sequence of the present invention (wherein the percent identity is determined using the ALIGN program of the GCG software package with a PAM120 weight residue table, a gap length penalty of 12, and a gap penalty of 4) and an amino acid sequence which is encoded by a nucleic acid molecule which hybridizes to a nucleic acid molecule consisting of the nucleic acid molecules of the present invention, or a complement thereof, under conditions of hybridization of 6X SSC at 45°C and washing in 0.2 X SSC, 0.1% SDS at 65°C. In various embodiments, the substantially purified antibodies of the invention, or fragments thereof, can be human, non-human, chimeric and/or humanized antibodies.

In another aspect, the invention provides non-human antibodies or fragments thereof, which antibodies or fragments specifically bind to a polypeptide comprising an amino acid sequence selected from the group consisting of: the amino acid sequence of the present invention, an amino acid sequence encoded by the cDNA of the present invention, a fragment of at least 15 amino acid residues of the amino acid sequence of the present invention, an amino acid sequence which is at least 95% identical to the amino acid sequence of the present invention (wherein the percent identity is determined using the ALIGN program of the GCG software package with a PAM120 weight residue table, a gap length penalty of 12, and a gap penalty of 4) and an amino acid sequence which is encoded by a nucleic acid molecule which hybridizes to a nucleic acid molecule consisting of the nucleic acid molecules of the present invention, or a complement thereof, under conditions of hybridization of 6X SSC at 45°C and washing

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in 0.2 X SSC, 0.1% SDS at 65°C. Such non-human antibodies can be goat, mouse, sheep, horse, chicken, rabbit, or rat antibodies. Alternatively, the non-human antibodies of the invention can be chimeric and/or humanized antibodies. In addition, the non-human antibodies of the invention can be polyclonal antibodies or monoclonal antibodies.

In still a further aspect, the invention provides monoclonal antibodies or fragments thereof, which antibodies or fragments specifically bind to a polypeptide comprising an amino acid sequence selected from the group consisting of the amino acid sequences of the present invention, an amino acid sequence encoded by the cDNA of the present invention, a fragment of at least 15 amino acid residues of an amino acid sequence of the present invention, an amino acid sequence which is at least 95% identical to an amino acid sequence of the present invention (wherein the percent identity is determined using the ALIGN program of the GCG software package with a PAM120 weight residue table, a gap length penalty of 12, and a gap penalty of 4) and an amino acid sequence which is encoded by a nucleic acid molecule which hybridizes to a nucleic acid molecule consisting of the nucleic acid molecules of the present invention, or a complement thereof, under conditions of hybridization of 6X SSC at 45°C and washing in 0.2 X SSC, 0.1% SDS at 65°C. The monoclonal antibodies can be human, humanized, chimeric and/or non-human antibodies.

The substantially purified antibodies or fragments thereof may specifically bind to a signal peptide, a secreted sequence, an extracellular domain, a transmembrane or a cytoplasmic domain or cytoplasmic membrane of a polypeptide of the invention. In a particularly preferred embodiment, the substantially purified antibodies or fragments thereof, the non-human antibodies or fragments thereof, and/or the monoclonal antibodies or fragments thereof, of the invention specifically bind to a secreted sequence or an extracellular domain of the amino acid sequences of the present invention.

Any of the antibodies of the invention can be conjugated to a therapeutic moiety or to a detectable substance. Non-limiting examples of detectable substances that can be conjugated to the antibodies of the invention are an enzyme, a prosthetic group, a fluorescent material, a luminescent material, a bioluminescent material, and a radioactive material.

The invention also provides a kit containing an antibody of the invention conjugated to a detectable substance, and instructions for use. Still another aspect of the invention is a pharmaceutical composition comprising an antibody of the invention and a pharmaceutically acceptable carrier. In preferred embodiments, the pharmaceutical composition contains an antibody of the invention, a therapeutic moiety, and a pharmaceutically acceptable carrier.

Still another aspect of the invention is a method of making an antibody that specifically recognizes a polypeptide of the present invention, the method comprising immunizing a mammal with a polypeptide. The polypeptide used as an immungen comprises an amino acid sequence selected from the group consisting of the amino acid sequence of the present invention, an amino acid sequence encoded by the cDNA of the nucleic acid molecules of the present invention, a fragment of at least 15 amino acid residues of the amino acid sequence of the present invention, an amino acid sequence which is at least 95% identical to the amino acid sequence of the present invention (wherein the percent identity is determined using the ALIGN program of the GCG software package with a PAM120 weight residue table, a gap length penalty of 12, and a gap penalty of 4) and an amino acid sequence which is encoded by a nucleic acid molecule which hybridizes to a nucleic acid molecule consisting of the nucleic acid molecules of the present invention, or a complement thereof, under conditions of hybridization of 6X SSC at 45°C and washing in 0.2 X SSC, 0.1% SDS at 65°C. After immunization, a sample is collected from the mammal that contains an antibody that specifically recognizes the polypeptide. Preferably, the polypeptide is recombinantly produced using a non-human host cell. Optionally, the antibodies can be further purified from the sample using techniques well known to those of skill in the art. The method can further comprise producing a monoclonal antibody- producing cell from the cells of the mammal. Optionally, antibodies are collected from the antibody-producing cell.

III. Recombinant Expression Vectors and Host Cells

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Another aspect of the invention pertains to vectors, preferably expression vectors, containing a nucleic acid encoding a polypeptide corresponding to a marker of the invention (or a portion of such a polypeptide). As used herein, the term "vector"

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refers to a nucleic acid molecule capable of transporting another nucleic acid to which it has been linked. One type of vector is a "plasmid", which refers to a circular double stranded DNA loop into which additional DNA segments can be ligated. Another type of vector is a viral vector, wherein additional DNA segments can be ligated into the viral genome. Certain vectors are capable of autonomous replication in a host cell into which they are introduced (e.g., bacterial vectors having a bacterial origin of replication and episomal mammalian vectors). Other vectors (e.g., non-episomal mammalian vectors) are integrated into the genome of a host cell upon introduction into the host cell, and thereby are replicated along with the host genome. Moreover, certain vectors, namely expression vectors, are capable of directing the expression of genes to which they are operably linked. In general, expression vectors of utility in recombinant DNA techniques are often in the form of plasmids (vectors). However, the invention is intended to include such other forms of expression vectors, such as viral vectors (e.g., replication defective retroviruses, adenoviruses and adeno-associated viruses), which serve equivalent functions.

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The recombinant expression vectors of the invention comprise a nucleic acid of the invention in a form suitable for expression of the nucleic acid in a host cell. This means that the recombinant expression vectors include one or more regulatory sequences, selected on the basis of the host cells to be used for expression, which is operably linked to the nucleic acid sequence to be expressed. Within a recombinant expression vector, "operably linked" is intended to mean that the nucleotide sequence of interest is linked to the regulatory sequence(s) in a manner which allows for expression of the nucleotide sequence (e.g., in an in vitro transcription/translation system or in a host cell when the vector is introduced into the host cell). The term "regulatory sequence" is intended to include promoters, enhancers and other expression control elements (e.g., polyadenylation signals). Such regulatory sequences are described, for example, in Goeddel, Methods in Enzymology: Gene Expression Technology vol.185, Academic Press, San Diego, CA (1991). Regulatory sequences include those which direct constitutive expression of a nucleotide sequence in many types of host cell and those which direct expression of the nucleotide sequence only in certain host cells (e.g., tissue-specific regulatory sequences). It will be appreciated by those skilled in the art that the design of the expression vector can depend on such factors as the choice of the

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host cell to be transformed, the level of expression of protein desired, and the like. The expression vectors of the invention can be introduced into host cells to thereby produce proteins or peptides, including fusion proteins or peptides, encoded by nucleic acids as described herein.

The recombinant expression vectors of the invention can be designed for expression of a polypeptide corresponding to a marker of the invention in prokaryotic (e.g., E. coli) or eukaryotic cells (e.g., insect cells {using baculovirus expression vectors}, yeast cells or mammalian cells). Suitable host cells are discussed further in Goeddel, supra. Alternatively, the recombinant expression vector can be transcribed and translated in vitro, for example using T7 promoter regulatory sequences and T7 polymerase.

Expression of proteins in prokaryotes is most often carried out in *E. coli* with vectors containing constitutive or inducible promoters directing the expression of either fusion or non-fusion proteins. Fusion vectors add a number of amino acids to a protein encoded therein, usually to the amino terminus of the recombinant protein. Such fusion vectors typically serve three purposes: 1) to increase expression of recombinant protein; 2) to increase the solubility of the recombinant protein; and 3) to aid in the purification of the recombinant protein by acting as a ligand in affinity purification. Often, in fusion expression vectors, a proteolytic cleavage site is introduced at the junction of the fusion moiety and the recombinant protein to enable separation of the recombinant protein from the fusion moiety subsequent to purification of the fusion protein. Such enzymes, and their cognate recognition sequences, include Factor Xa, thrombin and enterokinase. Typical fusion expression vectors include pGEX (Pharmacia Biotech Inc; Smith and Johnson, 1988, *Gene* 67:31-40), pMAL (New England Biolabs, Beverly, MA) and pRIT5 (Pharmacia, Piscataway, NJ) which fuse glutathione S-transferase (GST), maltose E binding protein, or protein A, respectively, to the target recombinant protein.

Examples of suitable inducible non-fusion *E. coli* expression vectors include pTrc (Amann *et al.*, 1988, *Gene* 69:301-315) and pET 11d (Studier *et al.*, p. 60-89, In *Gene Expression Technology: Methods in Enzymology* vol.185, Academic Press, San Diego, CA, 1991). Target gene expression from the pTrc vector relies on host RNA polymerase transcription from a hybrid trp-lac fusion promoter. Target gene expression from the pET 11d vector relies on transcription from a T7 gn10-lac fusion promoter

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mediated by a co-expressed viral RNA polymerase (T7 gn1). This viral polymerase is supplied by host strains BL21(DE3) or HMS174(DE3) from a resident prophage harboring a T7 gn1 gene under the transcriptional control of the lacUV 5 promoter.

One strategy to maximize recombinant protein expression in *E. coli* is to express the protein in a host bacteria with an impaired capacity to proteolytically cleave the recombinant protein (Gottesman, p. 119-128, In *Gene Expression Technology: Methods in Enzymology* vol. 185, Academic Press, San Diego, CA, 1990. Another strategy is to alter the nucleic acid sequence of the nucleic acid to be inserted into an expression vector so that the individual codons for each amino acid are those preferentially utilized in *E. coli* (Wada *et al.*, 1992, *Nucleic Acids Res.* 20:2111-2118). Such alteration of nucleic acid sequences of the invention can be carried out by standard DNA synthesis techniques.

In another embodiment, the expression vector is a yeast expression vector.

Examples of vectors for expression in yeast *S. cerevisiae* include pYepSec1 (Baldari *et al.*, 1987, *EMBO J.* 6:229-234), pMFa (Kurjan and Herskowitz, 1982, *Cell* 30:933-943), pJRY88 (Schultz *et al.*, 1987, *Gene* 54:113-123), pYES2 (Invitrogen Corporation, San Diego, CA), and pPicZ (Invitrogen Corp, San Diego, CA).

Alternatively, the expression vector is a baculovirus expression vector. Baculovirus vectors available for expression of proteins in cultured insect cells (e.g., Sf 9 cells) include the pAc series (Smith et al., 1983, Mol. Cell Biol. 3:2156-2165) and the pVL series (Lucklow and Summers, 1989, Virology 170:31-39).

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In yet another embodiment, a nucleic acid of the invention is expressed in mammalian cells using a mammalian expression vector. Examples of mammalian expression vectors include pCDM8 (Seed, 1987, *Nature* 329:840) and pMT2PC (Kaufman *et al.*, 1987, *EMBO J.* 6:187-195). When used in mammalian cells, the expression vector's control functions are often provided by viral regulatory elements. For example, commonly used promoters are derived from polyoma, Adenovirus 2, cytomegalovirus and Simian Virus 40. For other suitable expression systems for both prokaryotic and eukaryotic cells see chapters 16 and 17 of Sambrook *et al.*, *supra*.

In another embodiment, the recombinant mammalian expression vector is capable of directing expression of the nucleic acid preferentially in a particular cell type (e.g., tissue-specific regulatory elements are used to express the nucleic acid). Tissue-

specific regulatory elements are known in the art. Non-limiting examples of suitable tissue-specific promoters include the albumin promoter (liver-specific; Pinkert *et al.*, 1987, *Genes Dev.* 1:268-277), lymphoid-specific promoters (Calame and Eaton, 1988, *Adv. Immunol.* 43:235-275), in particular promoters of T cell receptors (Winoto and Baltimore, 1989, *EMBO J.* 8:729-733) and immunoglobulins (Banerji *et al.*, 1983, *Cell* 33:729-740; Queen and Baltimore, 1983, *Cell* 33:741-748), neuron-specific promoters (*e.g.*, the neurofilament promoter; Byrne and Ruddle, 1989, *Proc. Natl. Acad. Sci. USA* 86:5473-5477), pancreas-specific promoters (Edlund *et al.*, 1985, *Science* 230:912-916), and mammary gland-specific promoters (*e.g.*, milk whey promoter; U.S. Patent No. 4,873,316 and European Application Publication No. 264,166). Developmentally-regulated promoters are also encompassed, for example the murine hox promoters (Kessel and Gruss, 1990, *Science* 249:374-379) and the α-fetoprotein promoter (Camper and Tilghman, 1989, *Genes Dev.* 3:537-546).

The invention further provides a recombinant expression vector comprising a DNA molecule of the invention cloned into the expression vector in an antisense 15 orientation. That is, the DNA molecule is operably linked to a regulatory sequence in a manner which allows for expression (by transcription of the DNA molecule) of an RNA molecule which is antisense to the mRNA encoding a polypeptide of the invention. Regulatory sequences operably linked to a nucleic acid cloned in the antisense orientation can be chosen which direct the continuous expression of the antisense RNA 20 molecule in a variety of cell types, for instance viral promoters and/or enhancers, or regulatory sequences can be chosen which direct constitutive, tissue-specific or cell type specific expression of antisense RNA. The antisense expression vector can be in the form of a recombinant plasmid, phagemid, or attenuated virus in which antisense nucleic acids are produced under the control of a high efficiency regulatory region, the activity of which can be determined by the cell type into which the vector is introduced. For a discussion of the regulation of gene expression using antisense genes see Weintraub et al., 1986, Trends in Genetics, Vol. 1(1).

Another aspect of the invention pertains to host cells into which a recombinant expression vector of the invention has been introduced. The terms "host cell" and "recombinant host cell" are used interchangeably herein. It is understood that such terms refer not only to the particular subject cell but to the progeny or potential progeny

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of such a cell. Because certain modifications may occur in succeeding generations due to either mutation or environmental influences, such progeny may not, in fact, be identical to the parent cell, but are still included within the scope of the term as used herein.

A host cell can be any prokaryotic (e.g., E. coli) or eukaryotic cell (e.g., insect cells, yeast or mammalian cells).

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Vector DNA can be introduced into prokaryotic or eukaryotic cells via conventional transformation or transfection techniques. As used herein, the terms "transformation" and "transfection" are intended to refer to a variety of art-recognized techniques for introducing foreign nucleic acid into a host cell, including calcium phosphate or calcium chloride co-precipitation, DEAE-dextran-mediated transfection, lipofection, or electroporation. Suitable methods for transforming or transfecting host cells can be found in Sambrook, et al. (supra), and other laboratory manuals.

For stable transfection of mammalian cells, it is known that, depending upon the expression vector and transfection technique used, only a small fraction of cells may integrate the foreign DNA into their genome. In order to identify and select these integrants, a gene that encodes a selectable marker (e.g., for resistance to antibiotics) is generally introduced into the host cells along with the gene of interest. Preferred selectable markers include those which confer resistance to drugs, such as G418, hygromycin and methotrexate. Cells stably transfected with the introduced nucleic acid can be identified by drug selection (e.g., cells that have incorporated the selectable marker gene will survive, while the other cells die).

A host cell of the invention, such as a prokaryotic or eukaryotic host cell in culture, can be used to produce a polypeptide corresponding to a marker of the invention. Accordingly, the invention further provides methods for producing a polypeptide corresponding to a marker of the invention using the host cells of the invention. In one embodiment, the method comprises culturing the host cell of invention (into which a recombinant expression vector encoding a polypeptide of the invention has been introduced) in a suitable medium such that the marker is produced. In another embodiment, the method further comprises isolating the marker polypeptide from the medium or the host cell.

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The host cells of the invention can also be used to produce nonhuman transgenic animals. For example, in one embodiment, a host cell of the invention is a fertilized oocyte or an embryonic stem cell into which a sequences encoding a polypeptide corresponding to a marker of the invention have been introduced. Such host cells can then be used to create non-human transgenic animals in which exogenous sequences encoding a marker protein of the invention have been introduced into their genome or homologous recombinant animals in which endogenous gene(s) encoding a polypeptide corresponding to a marker of the invention sequences have been altered. Such animals are useful for studying the function and/or activity of the polypeptide corresponding to the marker and for identifying and/or evaluating modulators of polypeptide activity. As used herein, a "transgenic animal" is a non-human animal, preferably a mammal, more preferably a rodent such as a rat or mouse, in which one or more of the cells of the animal includes a transgene. Other examples of transgenic animals include non-human primates, sheep, dogs, cows, goats, chickens, amphibians, etc. A transgene is exogenous DNA which is integrated into the genome of a cell from which a transgenic animal develops and which remains in the genome of the mature animal, thereby directing the expression of an encoded gene product in one or more cell types or tissues of the transgenic animal. As used herein, an "homologous recombinant animal" is a nonhuman animal, preferably a mammal, more preferably a mouse, in which an endogenous gene has been altered by homologous recombination between the endogenous gene and an exogenous DNA molecule introduced into a cell of the animal, e.g., an embryonic cell of the animal, prior to development of the animal.

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A transgenic animal of the invention can be created by introducing a nucleic acid encoding a polypeptide corresponding to a marker of the invention into the male pronuclei of a fertilized oocyte, e.g., by microinjection, retroviral infection, and allowing the oocyte to develop in a pseudopregnant female foster animal. Intronic sequences and polyadenylation signals can also be included in the transgene to increase the efficiency of expression of the transgene. A tissue-specific regulatory sequence(s) can be operably linked to the transgene to direct expression of the polypeptide of the invention to particular cells. Methods for generating transgenic animals via embryo manipulation and microinjection, particularly animals such as mice, have become conventional in the art and are described, for example, in U.S. Patent Nos. 4,736,866 and 4,870,009, U.S.

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Patent No. 4,873,191 and in Hogan, *Manipulating the Mouse Embryo*, Cold Spring Harbor Laboratory Press, Cold Spring Harbor, N.Y., 1986. Similar methods are used for production of other transgenic animals. A transgenic founder animal can be identified based upon the presence of the transgene in its genome and/or expression of mRNA encoding the transgene in tissues or cells of the animals. A transgenic founder animal can then be used to breed additional animals carrying the transgene. Moreover, transgenic animals carrying the transgene can further be bred to other transgenic animals carrying other transgenes.

To create an homologous recombinant animal, a vector is prepared which contains at least a portion of a gene encoding a polypeptide corresponding to a marker of 10 the invention into which a deletion, addition or substitution has been introduced to thereby alter, e.g., functionally disrupt, the gene. In a preferred embodiment, the vector is designed such that, upon homologous recombination, the endogenous gene is functionally disrupted (i.e., no longer encodes a functional protein; also referred to as a 15 "knock out" vector). Alternatively, the vector can be designed such that, upon homologous recombination, the endogenous gene is mutated or otherwise altered but still encodes functional protein (e.g., the upstream regulatory region can be altered to thereby alter the expression of the endogenous protein). In the homologous recombination vector, the altered portion of the gene is flanked at its 5' and 3' ends by additional nucleic acid of the gene to allow for homologous recombination to occur 20 between the exogenous gene carried by the vector and an endogenous gene in an embryonic stem cell. The additional flanking nucleic acid sequences are of sufficient length for successful homologous recombination with the endogenous gene. Typically, several kilobases of flanking DNA (both at the 5' and 3' ends) are included in the vector (see, e.g., Thomas and Capecchi, 1987, Cell 51:503 for a description of homologous recombination vectors). The vector is introduced into an embryonic stem cell line (e.g., by electroporation) and cells in which the introduced gene has homologously recombined with the endogenous gene are selected (see, e.g., Li et al., 1992, Cell 69:915). The selected cells are then injected into a blastocyst of an animal (e.g., a mouse) to form aggregation chimeras (see, e.g., Bradley, Teratocarcinomas and Embryonic Stem Cells: A Practical Approach, Robertson, Ed., IRL, Oxford, 1987, pp. 113-152). A chimeric embryo can then be implanted into a suitable pseudopregnant

female foster animal and the embryo brought to term. Progeny harboring the homologously recombined DNA in their germ cells can be used to breed animals in which all cells of the animal contain the homologously recombined DNA by germline transmission of the transgene. Methods for constructing homologous recombination vectors and homologous recombinant animals are described further in Bradley (1991) Current Opinion in Bio/Technology 2:823-829 and in PCT Publication NOS. WO 90/11354, WO 91/01140, WO 92/0968, and WO 93/04169.

In another embodiment, transgenic non-human animals can be produced which contain selected systems which allow for regulated expression of the transgene. One example of such a system is the *cre/loxP* recombinase system of bacteriophage P1. For a description of the *cre/loxP* recombinase system, see, *e.g.*, Lakso *et al.* (1992) *Proc. Natl. Acad. Sci. USA* 89:6232-6236. Another example of a recombinase system is the FLP recombinase system of *Saccharomyces cerevisiae* (O'Gorman *et al.*, 1991, *Science* 251:1351-1355). If a *cre/loxP* recombinase system is used to regulate expression of the transgene, animals containing transgenes encoding both the *Cre* recombinase and a selected protein are required. Such animals can be provided through the construction of "double" transgenic animals, *e.g.*, by mating two transgenic animals, one containing a transgene encoding a selected protein and the other containing a transgene encoding a recombinase.

Clones of the non-human transgenic animals described herein can also be produced according to the methods described in Wilmut *et al.* (1997) *Nature* 385:810-813 and PCT Publication NOS. WO 97/07668 and WO 97/07669.

IV. Pharmaceutical Compositions

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The nucleic acid molecules, polypeptides, and antibodies (also referred to herein as "active compounds") corresponding to a marker of the invention can be incorporated into pharmaceutical compositions suitable for administration. Such compositions typically comprise the nucleic acid molecule, protein, or antibody and a pharmaceutically acceptable carrier. As used herein the language "pharmaceutically acceptable carrier" is intended to include any and all solvents, dispersion media, coatings, antibacterial and antifungal agents, isotonic and absorption delaying agents, and the like, compatible with pharmaceutical administration. The use of such media and

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agents for pharmaceutically active substances is well known in the art. Except insofar as any conventional media or agent is incompatible with the active compound, use thereof in the compositions is contemplated. Supplementary active compounds can also be incorporated into the compositions.

The invention includes methods for preparing pharmaceutical compositions for modulating the expression or activity of a polypeptide or nucleic acid corresponding to a marker of the invention. Such methods comprise formulating a pharmaceutically acceptable carrier with an agent which modulates expression or activity of a polypeptide or nucleic acid corresponding to a marker of the invention. Such compositions can further include additional active agents. Thus, the invention further includes methods for preparing a pharmaceutical composition by formulating a pharmaceutically acceptable carrier with an agent which modulates expression or activity of a polypeptide or nucleic acid corresponding to a marker of the invention and one or more additional active compounds.

The invention also provides methods (also referred to herein as "screening assays") for identifying modulators, *i.e.*, candidate or test compounds or agents (*e.g.*, peptides, peptidomimetics, peptoids, small molecules or other drugs) which (a) bind to the marker, or (b) have a modulatory (*e.g.*, stimulatory or inhibitory) effect on the activity of the marker or, more specifically, (c) have a modulatory effect on the interactions of the marker with one or more of its natural substrates (*e.g.*, peptide, protein, hormone, co-factor, or nucleic acid), or (d) have a modulatory effect on the expression of the marker. Such assays typically comprise a reaction between the marker and one or more assay components. The other components may be either the test compound itself, or a combination of test compound and a natural binding partner of the marker.

The test compounds of the present invention may be obtained from any available source, including systematic libraries of natural and/or synthetic compounds. Test compounds may also be obtained by any of the numerous approaches in combinatorial library methods known in the art, including: biological libraries; peptoid libraries (libraries of molecules having the functionalities of peptides, but with a novel, non-peptide backbone which are resistant to enzymatic degradation but which nevertheless remain bioactive; see, e.g., Zuckermann et al., 1994, J. Med. Chem. 37:2678-85);

spatially addressable parallel solid phase or solution phase libraries; synthetic library methods requiring deconvolution; the 'one-bead one-compound' library method; and synthetic library methods using affinity chromatography selection. The biological library and peptoid library approaches are limited to peptide libraries, while the other four approaches are applicable to peptide, non-peptide oligomer or small molecule libraries of compounds (Lam, 1997, *Anticancer Drug Des.* 12:145).

Examples of methods for the synthesis of molecular libraries can be found in the art, for example in: DeWitt et al. (1993) Proc. Natl. Acad. Sci. U.S.A. 90:6909; Erb et al. (1994) Proc. Natl. Acad. Sci. USA 91:11422; Zuckermann et al. (1994). J. Med. Chem. 37:2678; Cho et al. (1993) Science 261:1303; Carrell et al. (1994) Angew. Chem. Int. Ed. Engl. 33:2059; Carell et al. (1994) Angew. Chem. Int. Ed. Engl. 33:2061; and in Gallop et al. (1994) J. Med. Chem. 37:1233.

Libraries of compounds may be presented in solution (e.g., Houghten, 1992, Biotechniques 13:412-421), or on beads (Lam, 1991, Nature 354:82-84), chips (Fodor, 1993, Nature 364:555-556), bacteria and/or spores, (Ladner, USP 5,223,409), plasmids (Cull et al, 1992, Proc Natl Acad Sci USA 89:1865-1869) or on phage (Scott and Smith, 1990, Science 249:386-390; Devlin, 1990, Science 249:404-406; Cwirla et al, 1990, Proc. Natl. Acad. Sci. 87:6378-6382; Felici, 1991, J. Mol. Biol. 222:301-310; Ladner, supra.).

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In one embodiment, the invention provides assays for screening candidate or test compounds which are substrates of a marker or biologically active portion thereof. In another embodiment, the invention provides assays for screening candidate or test compounds which bind to a marker or biologically active portion thereof. Determining the ability of the test compound to directly bind to a marker can be accomplished, for example, by coupling the compound with a radioisotope or enzymatic label such that binding of the compound to the marker can be determined by detecting the labeled marker compound in a complex. For example, compounds (e.g., marker substrates) can be labeled with ¹²⁵I, ³⁵S, ¹⁴C, or ³H, either directly or indirectly, and the radioisotope detected by direct counting of radioemission or by scintillation counting. Alternatively, assay components can be enzymatically labeled with, for example, horseradish peroxidase, alkaline phosphatase, or luciferase, and the enzymatic label detected by determination of conversion of an appropriate substrate to product.

In another embodiment, the invention provides assays for screening candidate or test compounds which modulate the activity of a marker or a biologically active portion thereof. In all likelihood, the marker can, *in vivo*, interact with one or more molecules, such as but not limited to, peptides, proteins, hormones, cofactors and nucleic acids. For the purposes of this discussion, such cellular and extracellular molecules are referred to herein as "binding partners" or marker "substrate".

One necessary embodiment of the invention in order to facilitate such screening is the use of the marker to identify its natural *in vivo* binding partners. There are many ways to accomplish this which are known to one skilled in the art. One example is the use of the marker protein as "bait protein" in a two-hybrid assay or three-hybrid assay (see, e.g., U.S. Patent No. 5,283,317; Zervos et al, 1993, Cell 72:223-232; Madura et al, 1993, J. Biol. Chem. 268:12046-12054; Bartel et al, 1993, Biotechniques 14:920-924; Iwabuchi et al, 1993 Oncogene 8:1693-1696; Brent WO94/10300) in order to identify other proteins which bind to or interact with the marker (binding partners) and, therefore, are possibly involved in the natural function of the marker. Such marker binding partners are also likely to be involved in the propagation of signals by the marker or downstream elements of a marker-mediated signaling pathway. Alternatively, such marker binding partners may also be found to be inhibitors of the marker.

The two-hybrid system is based on the modular nature of most transcription factors, which consist of separable DNA-binding and activation domains. Briefly, the 20 assay utilizes two different DNA constructs. In one construct, the gene that encodes a marker protein fused to a gene encoding the DNA binding domain of a known transcription factor (e.g., GAL-4). In the other construct, a DNA sequence, from a library of DNA sequences, that encodes an unidentified protein ("prey" or "sample") is fused to a gene that codes for the activation domain of the known transcription factor. If the "bait" and the "prey" proteins are able to interact, in vivo, forming a markerdependent complex, the DNA-binding and activation domains of the transcription factor are brought into close proximity. This proximity allows transcription of a reporter gene (e.g., LacZ) which is operably linked to a transcriptional regulatory site responsive to the transcription factor. Expression of the reporter gene can be readily detected and cell 30 colonies containing the functional transcription factor can be isolated and used to obtain the cloned gene which encodes the protein which interacts with the marker protein.

In a further embodiment, assays may be devised through the use of the invention for the purpose of identifying compounds which modulate (e.g., affect either positively or negatively) interactions between a marker and its substrates and/or binding partners. Such compounds can include, but are not limited to, molecules such as antibodies, peptides, hormones, oligonucleotides, nucleic acids, and analogs thereof. Such compounds may also be obtained from any available source, including systematic libraries of natural and/or synthetic compounds. The preferred assay components for use in this embodiment is an cervical cancer marker identified herein, the known binding partner and/or substrate of same, and the test compound. Test compounds can be supplied from any source.

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The basic principle of the assay systems used to identify compounds that interfere with the interaction between the marker and its binding partner involves preparing a reaction mixture containing the marker and its binding partner under conditions and for a time sufficient to allow the two products to interact and bind, thus forming a complex. In order to test an agent for inhibitory activity, the reaction mixture is prepared in the presence and absence of the test compound. The test compound can be initially included in the reaction mixture, or can be added at a time subsequent to the addition of the marker and its binding partner. Control reaction mixtures are incubated without the test compound or with a placebo. The formation of any complexes between the marker and its binding partner is then detected. The formation of a complex in the control reaction, but less or no such formation in the reaction mixture containing the test compound, indicates that the compound interferes with the interaction of the marker and its binding partner. Conversely, the formation of more complex in the presence of compound than in the control reaction indicates that the compound may enhance interaction of the marker and its binding partner.

The assay for compounds that interfere with the interaction of the marker with its binding partner may be conducted in a heterogeneous or homogeneous format. Heterogeneous assays involve anchoring either the marker or its binding partner onto a solid phase and detecting complexes anchored to the solid phase at the end of the reaction. In homogeneous assays, the entire reaction is carried out in a liquid phase. In either approach, the order of addition of reactants can be varied to obtain different information about the compounds being tested. For example, test compounds that

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interfere with the interaction between the markers and the binding partners (e.g., by competition) can be identified by conducting the reaction in the presence of the test substance, i.e., by adding the test substance to the reaction mixture prior to or simultaneously with the marker and its interactive binding partner. Alternatively, test compounds that disrupt preformed complexes, e.g., compounds with higher binding constants that displace one of the components from the complex, can be tested by adding the test compound to the reaction mixture after complexes have been formed. The various formats are briefly described below.

In a heterogeneous assay system, either the marker or its binding partner is anchored onto a solid surface or matrix, while the other corresponding non-anchored component may be labeled, either directly or indirectly. In practice, microtitre plates are often utilized for this approach. The anchored species can be immobilized by a number of methods, either non-covalent or covalent, that are typically well known to one who practices the art. Non-covalent attachment can often be accomplished simply by coating 15 the solid surface with a solution of the marker or its binding partner and drying. Alternatively, an immobilized antibody specific for the assay component to be anchored can be used for this purpose. Such surfaces can often be prepared in advance and stored.

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In related embodiments, a fusion protein can be provided which adds a domain that allows one or both of the assay components to be anchored to a matrix. For example, glutathione-S-transferase/marker fusion proteins or glutathione-Stransferase/binding partner can be adsorbed onto glutathione sepharose beads (Sigma Chemical, St. Louis, MO) or glutathione derivatized microtiter plates, which are then combined with the test compound or the test compound and either the non-adsorbed marker or its binding partner, and the mixture incubated under conditions conducive to complex formation (e.g., physiological conditions). Following incubation, the beads or microtiter plate wells are washed to remove any unbound assay components, the immobilized complex assessed either directly or indirectly, for example, as described above. Alternatively, the complexes can be dissociated from the matrix, and the level of marker binding or activity determined using standard techniques.

Other techniques for immobilizing proteins on matrices can also be used in the screening assays of the invention. For example, either a marker or a marker binding partner can be immobilized utilizing conjugation of biotin and streptavidin. Biotinylated

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marker protein or target molecules can be prepared from biotin-NHS (N-hydroxysuccinimide) using techniques known in the art (e.g., biotinylation kit, Pierce Chemicals, Rockford, IL), and immobilized in the wells of streptavidin-coated 96 well plates (Pierce Chemical). In certain embodiments, the protein-immobilized surfaces can be prepared in advance and stored.

In order to conduct the assay, the corresponding partner of the immobilized assay component is exposed to the coated surface with or without the test compound. After the reaction is complete, unreacted assay components are removed (e.g., by washing) and any complexes formed will remain immobilized on the solid surface. The detection 10 of complexes anchored on the solid surface can be accomplished in a number of ways. Where the non-immobilized component is pre-labeled, the detection of label immobilized on the surface indicates that complexes were formed. Where the nonimmobilized component is not pre-labeled, an indirect label can be used to detect complexes anchored on the surface; e.g., using a labeled antibody specific for the initially non-immobilized species (the antibody, in turn, can be directly labeled or indirectly labeled with, e.g., a labeled anti-Ig antibody). Depending upon the order of addition of reaction components, test compounds which modulate (inhibit or enhance) complex formation or which disrupt preformed complexes can be detected.

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In an alternate embodiment of the invention, a homogeneous assay may be used... This is typically a reaction, analogous to those mentioned above, which is conducted in a liquid phase in the presence or absence of the test compound. The formed complexes are then separated from unreacted components, and the amount of complex formed is determined. As mentioned for heterogeneous assay systems, the order of addition of reactants to the liquid phase can yield information about which test compounds modulate (inhibit or enhance) complex formation and which disrupt preformed complexes.

In such a homogeneous assay, the reaction products may be separated from unreacted assay components by any of a number of standard techniques, including but not limited to: differential centrifugation, chromatography, electrophoresis and immunoprecipitation. In differential centrifugation, complexes of molecules may be separated from uncomplexed molecules through a series of centrifugal steps, due to the different sedimentation equilibria of complexes based on their different sizes and

densities (see, for example, Rivas, G., and Minton, A.P., Trends Biochem Sci 1993 Aug;18(8):284-7). Standard chromatographic techniques may also be utilized to separate complexed molecules from uncomplexed ones. For example, gel filtration chromatography separates molecules based on size, and through the utilization of an appropriate gel filtration resin in a column format, for example, the relatively larger complex may be separated from the relatively smaller uncomplexed components. Similarly, the relatively different charge properties of the complex as compared to the uncomplexed molecules may be exploited to differentially separate the complex from the remaining individual reactants, for example through the use of ion-exchange chromatography resins. Such resins and chromatographic techniques are well known to one skilled in the art (see, e.g., Heegaard, 1998, J Mol. Recognit. 11:141-148; Hage and Tweed, 1997, J. Chromatogr. B. Bromed. Sci. Appl., 699:499-525). Gel electrophoresis may also be employed to separate complexed molecules from unbound species (see, e.g., Ausubel et al (eds.), In: Current Protocols in Molecular Biology, J. Wiley & Sons, New York. 1999). In this technique, protein or nucleic acid complexes are separated based on size or charge, for example. In order to maintain the binding interaction during the electrophoretic process, nondenaturing gels in the absence of reducing agent are typically preferred, but conditions appropriate to the particular interactants will be wellknown to one skilled in the art. Immunoprecipitation is another common technique utilized for the isolation of a protein-protein complex from solution (see, e.g., Ausubel et al (eds.), In: Current Protocols in Molecular Biology, J. Wiley & Sons, New York. 1999). In this technique, all proteins binding to an antibody specific to one of the binding molecules are precipitated from solution by conjugating the antibody to a polymer bead that may be readily collected by centrifugation. The bound assay components are released from the beads (through a specific proteolysis event or other technique well known in the art which will not disturb the protein-protein interaction in the complex), and a second immunoprecipitation step is performed, this time utilizing antibodies specific for the correspondingly different interacting assay component. In this manner, only formed complexes should remain attached to the beads. Variations in 30 complex formation in both the presence and the absence of a test compound can be compared, thus offering information about the ability of the compound to modulate interactions between the marker and its binding partner.

Also within the scope of the present invention are methods for direct detection of interactions between the marker and its natural binding partner and/or a test compound in a homogeneous or heterogeneous assay system without further sample manipulation. For example, the technique of fluorescence energy transfer may be utilized (see, e.g., 5 Lakowicz et al, U.S. Patent No. 5,631,169; Stavrianopoulos et al, U.S. Patent No. 4,868,103). Generally, this technique involves the addition of a fluorophore label on a first 'donor' molecule (e.g., marker or test compound) such that its emitted fluorescent energy will be absorbed by a fluorescent label on a second, 'acceptor' molecule (e.g., marker or test compound), which in turn is able to fluoresce due to the absorbed energy. Alternately, the 'donor' protein molecule may simply utilize the natural fluorescent energy of tryptophan residues. Labels are chosen that emit different wavelengths of light, such that the 'acceptor' molecule label may be differentiated from that of the 'donor'. Since the efficiency of energy transfer between the labels is related to the distance separating the molecules, spatial relationships between the molecules can be assessed. In a situation in which binding occurs between the molecules, the fluorescent emission of the 'acceptor' molecule label in the assay should be maximal. An FET binding event can be conveniently measured through standard fluorometric detection means well known in the art (e.g., using a fluorimeter). A test substance which either enhances or hinders participation of one of the species in the preformed complex will result in the generation of a signal variant to that of background. In this way, test substances that modulate interactions between a marker and its binding partner can be identified in controlled assays.

In another embodiment, modulators of marker expression are identified in a method wherein a cell is contacted with a candidate compound and the expression of mRNA or protein, corresponding to a marker in the cell, is determined. The level of expression of mRNA or protein in the presence of the candidate compound is compared to the level of expression of mRNA or protein in the absence of the candidate compound. The candidate compound can then be identified as a modulator of marker expression based on this comparison. For example, when expression of marker mRNA or protein is greater (statistically significantly greater) in the presence of the candidate compound than in its absence, the candidate compound is identified as a stimulator of marker mRNA or protein expression. Conversely, when expression of marker mRNA

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or protein is less (statistically significantly less) in the presence of the candidate compound than in its absence, the candidate compound is identified as an inhibitor of marker mRNA or protein expression. The level of marker mRNA or protein expression in the cells can be determined by methods described herein for detecting marker mRNA or protein.

In another aspect, the invention pertains to a combination of two or more of the assays described herein. For example, a modulating agent can be identified using a cell-based or a cell free assay, and the ability of the agent to modulate the activity of a marker protein can be further confirmed *in vivo*, *e.g.*, in a whole animal model for cellular transformation and/or tumorigenesis.

This invention further pertains to novel agents identified by the above-described screening assays. Accordingly, it is within the scope of this invention to further use an agent identified as described herein in an appropriate animal model. For example, an agent identified as described herein (e.g., an marker modulating agent, an antisense marker nucleic acid molecule, an marker-specific antibody, or an marker-binding partner) can be used in an animal model to determine the efficacy, toxicity, or side effects of treatment with such an agent. Alternatively, an agent identified as described herein can be used in an animal model to determine the mechanism of action of such an agent. Furthermore, this invention pertains to uses of novel agents identified by the above-described screening assays for treatments as described herein.

It is understood that appropriate doses of small molecule agents and protein or polypeptide agents depends upon a number of factors within the knowledge of the ordinarily skilled physician, veterinarian, or researcher. The dose(s) of these agents will vary, for example, depending upon the identity, size, and condition of the subject or sample being treated, further depending upon the route by which the composition is to be administered, if applicable, and the effect which the practitioner desires the agent to have upon the nucleic acid or polypeptide of the invention. Exemplary doses of a small molecule include milligram or microgram amounts per kilogram of subject or sample weight (e.g. about 1 microgram per kilogram to about 500 milligrams per kilogram, about 100 micrograms per kilogram to about 5 milligrams per kilogram, or about 1 microgram per kilogram to about 50 micrograms per kilogram). Exemplary doses of a protein or polypeptide include gram, milligram or microgram amounts per kilogram of

subject or sample weight (e.g. about 1 microgram per kilogram to about 5 grams per kilogram, about 100 micrograms per kilogram to about 500 milligrams per kilogram, or about 1 milligram per kilogram to about 50 milligrams per kilogram). It is furthermore understood that appropriate doses of one of these agents depend upon the potency of the agent with respect to the expression or activity to be modulated. Such appropriate doses can be determined using the assays described herein. When one or more of these agents is to be administered to an animal (e.g. a human) in order to modulate expression or activity of a polypeptide or nucleic acid of the invention, a physician, veterinarian, or researcher can, for example, prescribe a relatively low dose at first, subsequently increasing the dose until an appropriate response is obtained. In addition, it is understood that the specific dose level for any particular animal subject will depend upon a variety of factors including the activity of the specific agent employed, the age, body weight, general health, gender, and diet of the subject, the time of administration, the route of administration, the rate of excretion, any drug combination, and the degree of expression or activity to be modulated.

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A pharmaceutical composition of the invention is formulated to be compatible with its intended route of administration. Examples of routes of administration include parenteral, e.g., intravenous, intradermal, subcutaneous, oral (e.g., inhalation), transdermal (topical), transmucosal, and rectal administration. Solutions or suspensions used for parenteral, intradermal, or subcutaneous application can include the following components: a sterile diluent such as water for injection, saline solution, fixed oils, polyethylene glycols, glycerine, propylene glycol or other synthetic solvents; antibacterial agents such as benzyl alcohol or methyl parabens; antioxidants such as ascorbic acid or sodium bisulfite; chelating agents such as ethylenediamine-tetraacetic acid; buffers such as acetates, citrates or phosphates and agents for the adjustment of tonicity such as sodium chloride or dextrose. pH can be adjusted with acids or bases, such as hydrochloric acid or sodium hydroxide. The parenteral preparation can be enclosed in ampules, disposable syringes or multiple dose vials made of glass or plastic.

Pharmaceutical compositions suitable for injectable use include sterile aqueous solutions (where water soluble) or dispersions and sterile powders for the extemporaneous preparation of sterile injectable solutions or dispersions. For intravenous administration, suitable carriers include physiological saline, bacteriostatic

water, Cremophor EL (BASF; Parsippany, NJ) or phosphate buffered saline (PBS). In all cases, the composition must be sterile and should be fluid to the extent that easy syringability exists. It must be stable under the conditions of manufacture and storage and must be preserved against the contaminating action of microorganisms such as bacteria and fungi. The carrier can be a solvent or dispersion medium containing, for example, water, ethanol, polyol (for example, glycerol, propylene glycol, and liquid polyethylene glycol, and the like), and suitable mixtures thereof. The proper fluidity can be maintained, for example, by the use of a coating such as lecithin, by the maintenance of the required particle size in the case of dispersion and by the use of surfactants.

Prevention of the action of microorganisms can be achieved by various antibacterial and antifungal agents, for example, parabens, chlorobutanol, phenol, ascorbic acid, thimerosal, and the like. In many cases, it will be preferable to include isotonic agents, for example, sugars, polyalcohols such as mannitol, sorbitol, or sodium chloride in the composition. Prolonged absorption of the injectable compositions can be brought about by including in the composition an agent which delays absorption, for example, aluminum monostearate and gelatin.

Sterile injectable solutions can be prepared by incorporating the active compound (e.g., a polypeptide or antibody) in the required amount in an appropriate solvent with one or a combination of ingredients enumerated above, as required, followed by filtered sterilization. Generally, dispersions are prepared by incorporating the active compound into a sterile vehicle which contains a basic dispersion medium, and then incorporating the required other ingredients from those enumerated above. In the case of sterile powders for the preparation of sterile injectable solutions, the preferred methods of preparation are vacuum drying and freeze-drying which yields a powder of the active ingredient plus any additional desired ingredient from a previously sterile-filtered solution thereof.

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Oral compositions generally include an inert diluent or an edible carrier. They can be enclosed in gelatin capsules or compressed into tablets. For the purpose of oral therapeutic administration, the active compound can be incorporated with excipients and used in the form of tablets, troches, or capsules. Oral compositions can also be prepared using a fluid carrier for use as a mouthwash, wherein the compound in the fluid carrier is applied orally and swished and expectorated or swallowed.

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Pharmaceutically compatible binding agents, and/or adjuvant materials can be included as part of the composition. The tablets, pills, capsules, troches, and the like can contain any of the following ingredients, or compounds of a similar nature: a binder such as microcrystalline cellulose, gum tragacanth or gelatin; an excipient such as starch or lactose, a disintegrating agent such as alginic acid, Primogel, or corn starch; a lubricant such as magnesium stearate or Sterotes; a glidant such as colloidal silicon dioxide; a sweetening agent such as sucrose or saccharin; or a flavoring agent such as peppermint, methyl salicylate, or orange flavoring.

For administration by inhalation, the compounds are delivered in the form of an aerosol spray from a pressurized container or dispenser which contains a suitable propellant, e.g., a gas such as carbon dioxide, or a nebulizer.

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Systemic administration can also be by transmucosal or transdermal means. For transmucosal or transdermal administration, penetrants appropriate to the barrier to be permeated are used in the formulation. Such penetrants are generally known in the art, and include, for example, for transmucosal administration, detergents, bile salts, and fusidic acid derivatives. Transmucosal administration can be accomplished through the use of nasal sprays or suppositories. For transdermal administration, the active compounds are formulated into ointments, salves, gels, or creams as generally known in the art.

The compounds can also be prepared in the form of suppositories (e.g., with conventional suppository bases such as cocoa butter and other glycerides) or retention enemas for rectal delivery.

In one embodiment, the active compounds are prepared with carriers that will protect the compound against rapid elimination from the body, such as a controlled release formulation, including implants and microencapsulated delivery systems.

Biodegradable, biocompatible polymers can be used, such as ethylene vinyl acetate, polyanhydrides, polyglycolic acid, collagen, polyorthoesters, and polylactic acid.

Methods for preparation of such formulations will be apparent to those skilled in the art. The materials can also be obtained commercially from Alza Corporation and Nova Pharmaceuticals, Inc. Liposomal suspensions (including liposomes having monoclonal antibodies incorporated therein or thereon) can also be used as pharmaceutically

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acceptable carriers. These can be prepared according to methods known to those skilled in the art, for example, as described in U.S. Patent No. 4,522,811.

It is especially advantageous to formulate oral or parenteral compositions in dosage unit form for ease of administration and uniformity of dosage. Dosage unit form as used herein refers to physically discrete units suited as unitary dosages for the subject to be treated; each unit containing a predetermined quantity of active compound calculated to produce the desired therapeutic effect in association with the required pharmaceutical carrier. The specification for the dosage unit forms of the invention are dictated by and directly dependent on the unique characteristics of the active compound and the particular therapeutic effect to be achieved, and the limitations inherent in the art of compounding such an active compound for the treatment of individuals.

For antibodies, the preferred dosage is 0.1 mg/kg to 100 mg/kg of body weight (generally 10 mg/kg to 20 mg/kg). If the antibody is to act in the brain, a dosage of 50 mg/kg to 100 mg/kg is usually appropriate. Generally, partially human antibodies and fully human antibodies have a longer half-life within the human body than other antibodies. Accordingly, lower dosages and less frequent administration is often possible. Modifications such as lipidation can be used to stabilize antibodies and to enhance uptake and tissue penetration (e.g., into the cervical epithelium). A method for lipidation of antibodies is described by Cruikshank et al. (1997) J. Acquired Immune Deficiency Syndromes and Human Retrovirology 14:193.

The nucleic acid molecules corresponding to a marker of the invention can be inserted into vectors and used as gene therapy vectors. Gene therapy vectors can be delivered to a subject by, for example, intravenous injection, local administration (U.S. Patent 5,328,470), or by stereotactic injection (see, e.g., Chen et al., 1994, Proc. Natl. Acad. Sci. USA 91:3054-3057). The pharmaceutical preparation of the gene therapy vector can include the gene therapy vector in an acceptable diluent, or can comprise a slow release matrix in which the gene delivery vehicle is imbedded. Alternatively, where the complete gene delivery vector can be produced intact from recombinant cells, e.g. retroviral vectors, the pharmaceutical preparation can include one or more cells which produce the gene delivery system.

The pharmaceutical compositions can be included in a container, pack, or dispenser together with instructions for administration.

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V. Computer Readable Means and Arrays

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Computer readable media comprising a marker(s) of the present invention is also provided. As used herein, "computer readable media" refers to any medium that can be read and accessed directly by a computer. Such media include, but are not limited to: magnetic storage media, such as floppy discs, hard disc storage medium, and magnetic tape; optical storage media such as CD-ROM; electrical storage media such as RAM and ROM; and hybrids of these categories such as magnetic/optical storage media. The skilled artisan will readily appreciate how any of the presently known computer readable mediums can be used to create a manufacture comprising computer readable medium having recorded thereon a marker of the present invention.

As used herein, "recorded" refers to a process for storing information on computer readable medium. Those skilled in the art can readily adopt any of the presently known methods for recording information on computer readable medium to generate manufactures comprising the markers of the present invention.

A variety of data processor programs and formats can be used to store the marker information of the present invention on computer readable medium. For example, the nucleic acid sequence corresponding to the markers can be represented in a word processing text file, formatted in commercially-available software such as WordPerfect and MicroSoft Word, or represented in the form of an ASCII file, stored in a database application, such as DB2, Sybase, Oracle, or the like. Any number of dataprocessor structuring formats (e.g., text file or database) may be adapted in order to obtain computer readable medium having recorded thereon the markers of the present invention.

By providing the markers of the invention in computer readable form, one can routinely access the marker sequence information for a variety of purposes. For example, one skilled in the art can use the nucleotide or amino acid sequences of the invention in computer readable form to compare a target sequence or target structural motif with the sequence information stored within the data storage means. Search means are used to identify fragments or regions of the sequences of the invention which match a particular target sequence or target motif.

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The invention also includes an array comprising a marker(s) of the present invention. The array can be used to assay expression of one or more genes in the array. In one embodiment, the array can be used to assay gene expression in a tissue to ascertain tissue specificity of genes in the array. In this manner, up to about 7600 genes can be simultaneously assayed for expression. This allows a profile to be developed showing a battery of genes specifically expressed in one or more tissues.

In addition to such qualitative determination, the invention allows the quantitation of gene expression. Thus, not only tissue specificity, but also the level of expression of a battery of genes in the tissue is ascertainable. Thus, genes can be grouped on the basis of their tissue expression per se and level of expression in that tissue. This is useful, for example, in ascertaining the relationship of gene expression between or among tissues. Thus, one tissue can be perturbed and the effect on gene expression in a second tissue can be determined. In this context, the effect of one cell type on another cell type in response to a biological stimulus can be determined. Such a determination is useful, for example, to know the effect of cell-cell interaction at the level of gene expression. If an agent is administered therapeutically to treat one cell type but has an undesirable effect on another cell type, the invention provides an assay to determine the molecular basis of the undesirable effect and thus provides the opportunity to co-administer a counteracting agent or otherwise treat the undesired effect. Similarly, even within a single cell type, undesirable biological effects can be determined at the molecular level. Thus, the effects of an agent on expression of other than the target gene can be ascertained and counteracted.

In another embodiment, the array can be used to monitor the time course of expression of one or more genes in the array. This can occur in various biological contexts, as disclosed herein, for example development and differentiation, tumor progression, progression of other diseases, *in vitro* processes, such a cellular transformation and senescence, autonomic neural and neurological processes, such as, for example, pain and appetite, and cognitive functions, such as learning or memory.

The array is also useful for ascertaining the effect of the expression of a gene on the expression of other genes in the same cell or in different cells. This provides, for example, for a selection of alternate molecular targets for therapeutic intervention if the ultimate or downstream target cannot be regulated.

The array is also useful for ascertaining differential expression patterns of one or more genes in normal and abnormal cells. This provides a battery of genes that could serve as a molecular target for diagnosis or therapeutic intervention.

5 VI. Predictive Medicine

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The present invention pertains to the field of predictive medicine in which diagnostic assays, prognostic assays, pharmacogenomics, and monitoring clinical trails are used for prognostic (predictive) purposes to thereby treat an individual prophylactically. Accordingly, one aspect of the present invention relates to diagnostic assays for determining the level of expression of polypeptides or nucleic acids corresponding to one or more markers of the invention, in order to determine whether an individual is at risk of developing cervical cancer. Such assays can be used for prognostic or predictive purposes to thereby prophylactically treat an individual prior to the onset of the cancer.

Yet another aspect of the invention pertains to monitoring the influence of agents (e.g., drugs or other compounds administered either to inhibit cervical cancer or to treat or prevent any other disorder {i.e. in order to understand any cervical carcinogenic effects that such treatment may have}) on the expression or activity of a marker of the invention in clinical trials. These and other agents are described in further detail in the following sections.

A. Diagnostic Assays

An exemplary method for detecting the presence or absence of a polypeptide or nucleic acid corresponding to a marker of the invention in a biological sample involves obtaining a biological sample (e.g. a cervical smear) from a test subject and contacting the biological sample with a compound or an agent capable of detecting the polypeptide or nucleic acid (e.g., mRNA, genomic DNA, or cDNA). The detection methods of the invention can thus be used to detect mRNA, protein, cDNA, or genomic DNA, for example, in a biological sample in vitro as well as in vivo. For example, in vitro techniques for detection of mRNA include Northern hybridizations and in situ hybridizations. In vitro techniques for detection of a polypeptide corresponding to a marker of the invention include enzyme linked immunosorbent assays (ELISAs),

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Western blots, immunoprecipitations, immunohistochemistry and immunofluorescence. *In vitro* techniques for detection of genomic DNA include Southern hybridizations. Furthermore, *in vivo* techniques for detection of a polypeptide corresponding to a marker of the invention include introducing into a subject a labeled antibody directed against the polypeptide. For example, the antibody can be labeled with a radioactive marker whose presence and location in a subject can be detected by standard imaging techniques.

A general principle of such diagnostic and prognostic assays involves preparing a sample or reaction mixture that may contain a marker, and a probe, under appropriate conditions and for a time sufficient to allow the marker and probe to interact and bind, thus forming a complex that can be removed and/or detected in the reaction mixture. These assays can be conducted in a variety of ways.

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For example, one method to conduct such an assay would involve anchoring the marker or probe onto a solid phase support, also referred to as a substrate, and detecting target marker/probe complexes anchored on the solid phase at the end of the reaction. In one embodiment of such a method, a sample from a subject, which is to be assayed for presence and/or concentration of marker, can be anchored onto a carrier or solid phase support. In another embodiment, the reverse situation is possible, in which the probe can be anchored to a solid phase and a sample from a subject can be allowed to react as an unanchored component of the assay.

There are many established methods for anchoring assay components to a solid phase. These include, without limitation, marker or probe molecules which are immobilized through conjugation of biotin and streptavidin. Such biotinylated assay components can be prepared from biotin-NHS (N-hydroxy-succinimide) using techniques known in the art (e.g., biotinylation kit, Pierce Chemicals, Rockford, IL), and immobilized in the wells of streptavidin-coated 96 well plates (Pierce Chemical). In certain embodiments, the surfaces with immobilized assay components can be prepared in advance and stored.

Other suitable carriers or solid phase supports for such assays include any material capable of binding the class of molecule to which the marker or probe belongs. Well-known supports or carriers include, but are not limited to, glass, polystyrene, nylon, polypropylene, nylon, polyethylene, dextran, amylases, natural and modified celluloses, polyacrylamides, gabbros, and magnetite.

In order to conduct assays with the above mentioned approaches, the non-immobilized component is added to the solid phase upon which the second component is anchored. After the reaction is complete, uncomplexed components may be removed (e.g., by washing) under conditions such that any complexes formed will remain immobilized upon the solid phase. The detection of marker/probe complexes anchored to the solid phase can be accomplished in a number of methods outlined herein.

In a preferred embodiment, the probe, when it is the unanchored assay component, can be labeled for the purpose of detection and readout of the assay, either directly or indirectly, with detectable labels discussed herein and which are well-known to one skilled in the art.

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It is also possible to directly detect marker/probe complex formation without further manipulation or labeling of either component (marker or probe), for example by utilizing the technique of fluorescence energy transfer (see, for example, Lakowicz et al., U.S. Patent No. 5,631,169; Stavrianopoulos, et al., U.S. Patent No. 4,868,103). A fluorophore label on the first, 'donor' molecule is selected such that, upon excitation with incident light of appropriate wavelength, its emitted fluorescent energy will be absorbed by a fluorescent label on a second 'acceptor' molecule, which in turn is able to fluoresce due to the absorbed energy. Alternately, the 'donor' protein molecule may simply utilize the natural fluorescent energy of tryptophan residues. Labels are chosen that emit different wavelengths of light, such that the 'acceptor' molecule label may be differentiated from that of the 'donor'. Since the efficiency of energy transfer between the labels is related to the distance separating the molecules, spatial relationships between the molecules can be assessed. In a situation in which binding occurs between the molecules, the fluorescent emission of the 'acceptor' molecule label in the assay should be maximal. An FET binding event can be conveniently measured through standard fluorometric detection means well known in the art (e.g., using a fluorimeter).

In another embodiment, determination of the ability of a probe to recognize a marker can be accomplished without labeling either assay component (probe or marker) by utilizing a technology such as real-time Biomolecular Interaction Analysis (BIA) (see, e.g., Sjolander, S. and Urbaniczky, C., 1991, Anal. Chem. 63:2338-2345 and Szabo et al., 1995, Curr. Opin. Struct. Biol. 5:699-705). As used herein, "BIA" or "surface plasmon resonance" is a technology for studying biospecific interactions in real

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time, without labeling any of the interactants (e.g., BIAcore). Changes in the mass at the binding surface (indicative of a binding event) result in alterations of the refractive index of light near the surface (the optical phenomenon of surface plasmon resonance (SPR)), resulting in a detectable signal which can be used as an indication of real-time reactions between biological molecules.

Alternatively, in another embodiment, analogous diagnostic and prognostic assays can be conducted with marker and probe as solutes in a liquid phase. In such an assay, the complexed marker and probe are separated from uncomplexed components by any of a number of standard techniques, including but not limited to: differential centrifugation, chromatography, electrophoresis and immunoprecipitation. In differential centrifugation, marker/probe complexes may be separated from uncomplexed assay components through a series of centrifugal steps, due to the different sedimentation equilibria of complexes based on their different sizes and densities (see, for example, Rivas, G., and Minton, A.P., 1993, Trends Biochem Sci. 18(8):284-7). Standard chromatographic techniques may also be utilized to separate complexed. molecules from uncomplexed ones. For example, gel filtration chromatography separates molecules based on size, and through the utilization of an appropriate gel filtration resin in a column format, for example, the relatively larger complex may be separated from the relatively smaller uncomplexed components. Similarly, the relatively different charge properties of the marker/probe complex as compared to the uncomplexed components may be exploited to differentiate the complex from uncomplexed components, for example through the utilization of ion-exchange chromatography resins. Such resins and chromatographic techniques are well known to one skilled in the art (see, e.g., Heegaard, N.H., 1998, J. Mol. Recognit. Winter 11(1-6):141-8; Hage, D.S., and Tweed, S.A. J Chromatogr B Biomed Sci Appl 1997 Oct 10;699(1-2):499-525). Gel electrophoresis may also be employed to separate complexed assay components from unbound components (see, e.g., Ausubel et al., ed., Current Protocols in Molecular Biology, John Wiley & Sons, New York, 1987-1999). In this technique, protein or nucleic acid complexes are separated based on size or charge, for example. In order to maintain the binding interaction during the electrophoretic process, non-denaturing gel matrix materials and conditions in the

absence of reducing agent are typically preferred. Appropriate conditions to the particular assay and components thereof will be well known to one skilled in the art.

In a particular embodiment, the level of mRNA corresponding to the marker can be determined both by *in situ* and by *in vitro* formats in a biological sample using methods known in the art. The term "biological sample" is intended to include tissues, cells, biological fluids and isolates thereof, isolated from a subject, as well as tissues, cells and fluids present within a subject. Many expression detection methods use isolated RNA. For *in vitro* methods, any RNA isolation technique that does not select against the isolation of mRNA can be utilized for the purification of RNA from cervical cells (see, *e.g.*, Ausubel *et al.*, ed., *Current Protocols in Molecular Biology*, John Wiley & Sons, New York 1987-1999). Additionally, large numbers of tissue samples can readily be processed using techniques well known to those of skill in the art, such as, for example, the single-step RNA isolation process of Chomczynski (1989, U.S. Patent No. 4,843,155).

The isolated mRNA can be used in hybridization or amplification assays that include, but are not limited to, Southern or Northern analyses, polymerase chain reaction analyses and probe arrays. One preferred diagnostic method for the detection of mRNA levels involves contacting the isolated mRNA with a nucleic acid molecule (probe) that can hybridize to the mRNA encoded by the gene being detected. The nucleic acid probe can be, for example, a full-length cDNA, or a portion thereof, such as an oligonucleotide of at least 7, 15, 30, 50, 100, 250 or 500 nucleotides in length and sufficient to specifically hybridize under stringent conditions to a mRNA or genomic DNA encoding a marker of the present invention. Other suitable probes for use in the diagnostic assays of the invention are described herein. Hybridization of an mRNA with the probe indicates that the marker in question is being expressed.

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In one format, the mRNA is immobilized on a solid surface and contacted with a probe, for example by running the isolated mRNA on an agarose gel and transferring the mRNA from the gel to a membrane, such as nitrocellulose. In an alternative format, the probe(s) are immobilized on a solid surface and the mRNA is contacted with the probe(s), for example, in an Affymetrix gene chip array. A skilled artisan can readily adapt known mRNA detection methods for use in detecting the level of mRNA encoded by the markers of the present invention.

An alternative method for determining the level of mRNA corresponding to a marker of the present invention in a sample involves the process of nucleic acid amplification, e.g., by rtPCR (the experimental embodiment set forth in Mullis, 1987, U.S. Patent No. 4,683,202), ligase chain reaction (Barany, 1991, Proc. Natl. Acad. Sci. USA, 88:189-193), self sustained sequence replication (Guatelli et al., 1990, Proc. Natl. Acad. Sci. USA 87:1874-1878), transcriptional amplification system (Kwoh et al., 1989, Proc. Natl. Acad. Sci. USA 86:1173-1177), Q-Beta Replicase (Lizardi et al., 1988, Bio/Technology 6:1197), rolling circle replication (Lizardi et al., U.S. Patent No. 5,854,033) or any other nucleic acid amplification method, followed by the detection of the amplified molecules using techniques well known to those of skill in the art. These detection schemes are especially useful for the detection of nucleic acid molecules if such molecules are present in very low numbers. As used herein, amplification primers are defined as being a pair of nucleic acid molecules that can anneal to 5' or 3' regions of a gene (plus and minus strands, respectively, or vice-versa) and contain a short region in between. In general, amplification primers are from about 10 to 30 nucleotides in length and flank a region from about 50 to 200 nucleotides in length. Under appropriate conditions and with appropriate reagents, such primers permit the amplification of a nucleic acid molecule comprising the nucleotide sequence flanked by the primers!..

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For *in situ* methods, mRNA does not need to be isolated from the cervical cells prior to detection. In such methods, a cell or tissue sample is prepared/processed using known histological methods. The sample is then immobilized on a support, typically a glass slide, and then contacted with a probe that can hybridize to mRNA that encodes the marker.

As an alternative to making determinations based on the absolute expression level of the marker, determinations may be based on the normalized expression level of the marker. Expression levels are normalized by correcting the absolute expression level of a marker by comparing its expression to the expression of a gene that is not a marker, e.g., a housekeeping gene that is constitutively expressed. Suitable genes for normalization include housekeeping genes such as the actin gene, or epithelial cell-specific genes. This normalization allows the comparison of the expression level in one sample, e.g., a patient sample, to another sample, e.g., a non-cervical cancer sample, or between samples from different sources.

Alternatively, the expression level can be provided as a relative expression level. To determine a relative expression level of a marker, the level of expression of the marker is determined for 10 or more samples of normal versus cancer cell isolates, preferably 50 or more samples, prior to the determination of the expression level for the sample in question. The mean expression level of each of the genes assayed in the larger number of samples is determined and this is used as a baseline expression level for the marker. The expression level of the marker determined for the test sample (absolute level of expression) is then divided by the mean expression value obtained for that marker. This provides a relative expression level.

Preferably, the samples used in the baseline determination will be from cervical cancer or from non-cervical cancer cells of cervical tissue. The choice of the cell source is dependent on the use of the relative expression level. Using expression found in normal tissues as a mean expression score aids in validating whether the marker assayed is cervical specific (versus normal cells). In addition, as more data is accumulated, the mean expression value can be revised, providing improved relative expression values based on accumulated data. Expression data from cervical cells provides a means for grading the severity of the cervical cancer state.

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In another embodiment of the present invention, a polypeptide corresponding to a marker is detected. A preferred agent for detecting a polypeptide of the invention is an antibody capable of binding to a polypeptide corresponding to a marker of the invention, preferably an antibody with a detectable label. Antibodies can be polyclonal, or more preferably, monoclonal. An intact antibody, or a fragment thereof (e.g., Fab or F(ab')₂) can be used. The term "labeled", with regard to the probe or antibody, is intended to encompass direct labeling of the probe or antibody by coupling (i.e., physically linking) a detectable substance to the probe or antibody, as well as indirect labeling of the probe or antibody by reactivity with another reagent that is directly labeled. Examples of indirect labeling include detection of a primary antibody using a fluorescently labeled secondary antibody and end-labeling of a DNA probe with biotin such that it can be detected with fluorescently labeled streptavidin.

Proteins from cervical cells can be isolated using techniques that are well known to those of skill in the art. The protein isolation methods employed can, for example, be such as those described in Harlow and Lane (Harlow and Lane, 1988, *Antibodies: A*

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Laboratory Manual, Cold Spring Harbor Laboratory Press, Cold Spring Harbor, New York).

A variety of formats can be employed to determine whether a sample contains a protein that binds to a given antibody. Examples of such formats include, but are not limited to, enzyme immunoassay (EIA), radioimmunoassay (RIA), Western blot analysis, immunohistochemistry (IHC) and enzyme linked immunoabsorbant assay (ELISA). A skilled artisan can readily adapt known protein/antibody detection methods for use in determining whether cervical cells express a marker of the present invention.

In one format, antibodies, or antibody fragments, can be used in methods such as Western blots, IHC or immunofluorescence techniques to detect the expressed proteins. In such uses, it is generally preferable to immobilize either the antibody, proteins or cell containing proteins on a solid support. Well-known supports or carriers include glass, polystyrene, polypropylene, polyethylene, dextran, nylon, amylases, natural and modified celluloses, polyacrylamides, gabbros, and magnetite.

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One skilled in the art will know many other suitable carriers for binding antibody or antigen, and will be able to adapt such support for use with the present invention. For example, protein isolated from cervical cells can be run on a polyacrylamide gel electrophoresis and immobilized onto a solid phase support such as nitrocellulose. The support can then be washed with suitable buffers followed by treatment with the detectably labeled antibody. The solid phase support can then be washed with the buffer a second time to remove unbound antibody. The amount of bound label on the solid support can then be detected by conventional means.

The invention also encompasses kits for detecting the presence of a polypeptide or nucleic acid corresponding to a marker of the invention in a biological sample (e.g. a cervical smear). Such kits can be used to determine if a subject is suffering from or is at increased risk of developing cervical cancer. For example, the kit can comprise a labeled compound or agent capable of detecting a polypeptide or an mRNA encoding a polypeptide corresponding to a marker of the invention in a biological sample and means for determining the amount of the polypeptide or mRNA in the sample (e.g., an antibody which binds the polypeptide or an oligonucleotide probe which binds to DNA or mRNA encoding the polypeptide). Kits can also include instructions for interpreting the results obtained using the kit.

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For antibody-based kits, the kit can comprise, for example: (1) a first antibody (e.g., attached to a solid support) which binds to a polypeptide corresponding to a marker of the invention; and, optionally, (2) a second, different antibody which binds to either the polypeptide or the first antibody and is conjugated to a detectable label.

For oligonucleotide-based kits, the kit can comprise, for example: (1) an oligonucleotide, e.g., a detectably labeled oligonucleotide, which hybridizes to a nucleic acid sequence encoding a polypeptide corresponding to a marker of the invention or (2) a pair of primers useful for amplifying a nucleic acid molecule corresponding to a marker of the invention. The kit can also comprise, e.g., a buffering agent, a preservative, or a protein stabilizing agent. The kit can further comprise components necessary for detecting the detectable label (e.g., an enzyme or a substrate). The kit can also contain a control sample or a series of control samples which can be assayed and compared to the test sample. Each component of the kit can be enclosed within an individual container and all of the various containers can be within a single package, along with instructions for interpreting the results of the assays performed using the kit.

B. Pharmacogenomics

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Agents or modulators which have a stimulatory or inhibitory effect on expression of a marker of the invention can be administered to individuals to treat (prophylactically or therapeutically) cervical cancer in the patient. In conjunction with such treatment, the pharmacogenomics (*i.e.*, the study of the relationship between an individual's genotype and that individual's response to a foreign compound or drug) of the individual may be considered. Differences in metabolism of therapeutics can lead to severe toxicity or therapeutic failure by altering the relation between dose and blood concentration of the pharmacologically active drug. Thus, the pharmacogenomics of the individual permits the selection of effective agents (*e.g.*, drugs) for prophylactic or therapeutic treatments based on a consideration of the individual's genotype. Such pharmacogenomics can further be used to determine appropriate dosages and therapeutic regimens. Accordingly, the level of expression of a marker of the invention in an individual can be determined to thereby select appropriate agent(s) for therapeutic or prophylactic treatment of the individual.

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Pharmacogenomics deals with clinically significant variations in the response to drugs due to altered drug disposition and abnormal action in affected persons. See, e.g., Linder (1997) Clin. Chem. 43(2):254-266. In general, two types of pharmacogenetic conditions can be differentiated. Genetic conditions transmitted as a single factor altering the way drugs act on the body are referred to as "altered drug action." Genetic conditions transmitted as single factors altering the way the body acts on drugs are referred to as "altered drug metabolism". These pharmacogenetic conditions can occur either as rare defects or as polymorphisms. For example, glucose-6-phosphate dehydrogenase (G6PD) deficiency is a common inherited enzymopathy in which the main clinical complication is hemolysis after ingestion of oxidant drugs (anti-malarials, sulfonamides, analgesics, nitrofurans) and consumption of fava beans.

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As an illustrative embodiment, the activity of drug metabolizing enzymes is a major determinant of both the intensity and duration of drug action. The discovery of genetic polymorphisms of drug metabolizing enzymes (e.g., N-acetyltransferase 2 (NAT 2) and cytochrome P450 enzymes CYP2D6 and CYP2C19) has provided an explanation as to why some patients do not obtain the expected drug effects or show exaggerated drug response and serious toxicity after taking the standard and safe dose of a drug. These polymorphisms are expressed in two phenotypes in the population, the extensive metabolizer (EM) and poor metabolizer (PM). The prevalence of PM is different among different populations. For example, the gene coding for CYP2D6 is highly polymorphic and several mutations have been identified in PM, which all lead to the absence of functional CYP2D6. Poor metabolizers of CYP2D6 and CYP2C19 quite frequently experience exaggerated drug response and side effects when they receive standard doses. If a metabolite is the active therapeutic moiety, a PM will show no therapeutic response, as demonstrated for the analgesic effect of codeine mediated by its CYP2D6formed metabolite morphine. The other extreme are the so called ultra-rapid metabolizers who do not respond to standard doses. Recently, the molecular basis of ultra-rapid metabolism has been identified to be due to CYP2D6 gene amplification.

Thus, the level of expression of a marker of the invention in an individual can be determined to thereby select appropriate agent(s) for therapeutic or prophylactic treatment of the individual. In addition, pharmacogenetic studies can be used to apply genotyping of polymorphic alleles encoding drug-metabolizing enzymes to the

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identification of an individual's drug responsiveness phenotype. This knowledge, when applied to dosing or drug selection, can avoid adverse reactions or therapeutic failure and thus enhance therapeutic or prophylactic efficiency when treating a subject with a modulator of expression of a marker of the invention.

This invention also provides a process for preparing a database comprising at least one of the markers set forth in Tables 1-4. For example, the polynucleotide sequences are stored in a digital storage medium such that a data processing system for standardized representation of the genes that identify a cervical cancer cell is compiled. The data processing system is useful to analyze gene expression between two cells by first selecting a cell suspected of being of a neoplastic phenotype or genotype and then isolating polynucleotides from the cell. The isolated polynucleotides are sequenced. The sequences from the sample are compared with the sequence(s) present in the database using homology search techniques. Greater than 90%, more preferably greater than 95% and more preferably, greater than or equal to 97% sequence identity between the test sequence and the polynucleotides of the present invention is a positive indication that the polynucleotide has been isolated from a cervical cancer cell as defined above.

In an alternative embodiment, the polynucleotides of this invention are sequenced and the information regarding sequence and in some embodiments, relative expression, is stored in any functionally relevant program, e.g., in Compare Report using the SAGE software (available though Dr. Ken Kinzler at John Hopkins University). The Compare Report provides a tabulation of the polynucleotide sequences and their abundance for the samples normalized to a defined number of polynucleotides per library (say 25,000). This is then imported into MS-ACCESS either directly or via copying the data into an Excel spreadsheet first and then from there into MS-ACCESS for additional manipulations. Other programs such as SYBASE or Oracle that permit the comparison of polynucleotide numbers could be used as alternatives to MS-ACCESS. Enhancements to the software can be designed to incorporate these additional functions. These functions consist in standard Boolean, algebraic, and text search operations, applied in various combinations to reduce a large input set of polynucleotides to a manageable subset of a polynucleotide of specifically defined interest.

One skilled in the art may create groups containing one or more project(s) by combining the counts of specific polynucleotides within a group (e.g., GroupNormal = Normal1 + Normal2, GroupTumor1 + TumorCellLine). Additional characteristic values are also calculated for each tag in the group (e.g., average count, minimum count, maximum count). One skilled in the art may calculate individual tag count ratios between groups, for example the ratio of the average GroupNormal count to the average GroupTumor count for each polynucleotide. A statistical measure of the significance of observed differences in tag counts between groups may be calculated.

C. Monitoring Clinical Trials

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Monitoring the influence of agents (e.g., drug compounds) on the level of expression of a marker of the invention can be applied not only in basic drug screening, but also in clinical trials. For example, the effectiveness of an agent to affect marker expression can be monitored in clinical trials of subjects receiving treatment for cervical cancer. In a preferred en.bodiment, the present invention provides a method for monitoring the effectiveness of treatment of a subject with an agent (e.g., an agonist, antagonist, peptidomimetic, protein, peptide, nucleic acid, small molecule, or other drug candidate) comprising the steps of (i) obtaining a pre-administration sample from a subject prior to administration of the agent; (ii) detecting the level of expression of one or more selected markers of the invention in the pre-administration sample; (iii) obtaining one or more post-administration samples from the subject; (iv) detecting the level of expression of the marker(s) in the post-administration samples; (v) comparing the level of expression of the marker(s) in the pre-administration sample with the level of expression of the marker(s) in the post-administration sample or samples; and (vi) altering the administration of the agent to the subject accordingly. For example, increased administration of the agent can be desirable to increase expression of the marker(s) to higher levels than detected, i.e., to increase the effectiveness of the agent. Alternatively, decreased administration of the agent can be desirable to decrease expression of the marker(s) to lower levels than detected, i.e., to decrease the effectiveness of the agent.

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D. Surrogate Markers

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The markers of the invention may serve as surrogate markers for one or more disorders or disease states or for conditions leading up to disease states, and in particular, cervical cancer. As used herein, a "surrogate marker" is an objective biochemical marker which correlates with the absence or presence of a disease or disorder, or with the progression of a disease or disorder (e.g., with the presence or absence of a tumor). The presence or quantity of such markers is independent of the disease. Therefore, these markers may serve to indicate whether a particular course of treatment is effective in lessening a disease state or disorder. Surrogate markers are of particular use when the presence or extent of a disease state or disorder is difficult to assess through standard methodologies (e.g., early stage tumors), or when an assessment of disease progression is desired before a potentially dangerous clinical endpoint is reached (e.g., an assessment of cardiovascular disease may be made using cholesterol levels as a surrogate marker, and an analysis of HIV infection may be made using HIV RNA levels as a surrogate marker, well in advance of the undesirable clinical outcomes of myocardial infarction or fully-developed AIDS). Examples of the use of surrogate markers in the art include: Koomen et al. (2000) J. Mass. Spectrom. 35: 258-264; and James (1994) AIDS Treatment News Archive 209.

The markers of the invention are also useful as pharmacodynamic markers. As used herein, a "pharmacodynamic marker" is an objective biochemical marker which correlates specifically with drug effects. The presence or quantity of a pharmacodynamic marker is not related to the disease state or disorder for which the drug is being administered; therefore, the presence or quantity of the marker is indicative of the presence or activity of the drug in a subject. For example, a pharmacodynamic marker may be indicative of the concentration of the drug in a biological tissue, in that the marker is either expressed or transcribed or not expressed or transcribed in that tissue in relationship to the level of the drug. In this fashion, the distribution or uptake of the drug may be monitored by the pharmacodynamic marker. Similarly, the presence or quantity of the pharmacodynamic marker may be related to the presence or quantity of the metabolic product of a drug, such that the presence or quantity of the marker is indicative of the relative breakdown rate of the drug *in vivo*. Pharmacodynamic markers are of particular use in increasing the sensitivity of detection

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of drug effects, particularly when the drug is administered in low doses. Since even a small amount of a drug may be sufficient to activate multiple rounds of marker transcription or expression, the amplified marker may be in a quantity which is more readily detectable than the drug itself. Also, the marker may be more easily detected due to the nature of the marker itself; for example, using the methods described herein, antibodies may be employed in an immune-based detection system for a protein marker, or marker-specific radiolabeled probes may be used to detect a mRNA marker. Furthermore, the use of a pharmacodynamic marker may offer mechanism-based prediction of risk due to drug treatment beyond the range of possible direct observations. Examples of the use of pharmacodynamic markers in the art include: Matsuda *et al.* US 6,033,862; Hattis *et al.* (1991) *Env. Health Perspect.* 90: 229-238; Schentag (1999) *Am. J. Health-Syst. Pharm.* 56 Suppl. 3: S21-S24; and Nicolau (1999) *Am. J. Health-Syst. Pharm.* 56 Suppl. 3: S16-S20.

The markers of the invention are also useful as pharmacogenomic markers. As

used herein, a "pharmacogenomic marker" is an objective biochemical marker which
correlates with a specific clinical drug response or susceptibility in a subject (see, e.g.,
McLeod et al. (1999) Eur. J. Cancer 35(12): 1650-1652). The presence or quantity of
the pharmacogenomic marker is related to the predicted response of the subject to a
specific drug or class of drugs prior to administration of the drug. By assessing the

presence or quantity of one or more pharmacogenomic markers in a subject, a drug
therapy which is most appropriate for the subject, or which is predicted to have a greater
degree of success, may be selected. For example, based on the presence or quantity of
RNA or protein for specific tumor markers in a subject, a drug or course of treatment
may be selected that is optimized for the treatment of the specific tumor likely to be

present in the subject. Similarly, the presence or absence of a specific sequence
mutation in marker DNA may correlate with drug response. The use of
pharmacogenomic markers therefore permits the application of the most appropriate
treatment for each subject without having to administer the therapy.

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VII. Experimental Protocol

A. Subtracted Libraries

Subtracted libraries are generated using a PCR based method that allows the isolation of clones expressed at higher levels in one population of mRNA (tester) compared to another population (driver). Both tester and driver mRNA populations are converted into cDNA by reverse transcription, and then PCR amplified using the SMART PCR kit from Clontech. Tester and driver cDNAs are then hybridized using the PCR-Select cDNA subtraction kit from Clontech. This technique results in both subtraction and normalization, which is an equalization of copy number of low-abundance and high-abundance sequences. After generation of the subtractive libraries, a group of 96 or more clones from each library is tested to confirm differential expression by reverse Southern hybridization.

SEQ ID NOS: 1-705 were identified through the above-described subtractive library hybridization technique, wherein the "tester" source for the subtracted libraries was comprised of cDNA generated from four independent stage IB cervical tumors. The "driver" source for the subtracted libraries was comprised of cDNA generated from at least three independent samples of normal ectocervix that were manually dissected to isolate the epithelial component of the tissue. In some cases, the driver also included cDNA generated from B-lymphocytes, T-lymphocytes, and other white blood cells, in activated and resting states.

SEQ ID NOS: 706-1428 were also identified through the above-described subtractive library hybridization technique, wherein the "tester" source for the subtracted libraries was comprised of cDNA generated from four independent CINIII cervical samples. The "driver" source for the subtracted library was comprised of cDNA generated from six independent normal ectocervix samples that were manually dissected to isolate the epithelial components. The "driver" source also includes cDNA generated from B-lymphocytes, T-lymphocytes, and other white blood cells, in activated and resting states.

B. Proteomics

Proteins that are secreted by normal and transformed cells in culture are analyzed to identify those proteins that are likely to be secreted by cancerous cells into body fluids. Supernatants are isolated and MWT-CO filters are used to simplify the mixture of proteins. The proteins are then digested with trypsin. The tryptic peptides are loaded onto a microcapillary HPLC column where they are separated, and eluted directly into an ion trap mass spectrometer, through a custom-made electrospray ionization source. Throughout the gradient, sequence data is acquired through fragmentation of the four most intense ions (peptides) that elute off the column, while dynamically excluding those that have already been fragmented. In this way, approximately 2000 scans worth of sequence data are obtained, corresponding to approximately 50 to 200 different proteins in the sample. These data are searched against databases using correlation analysis tools, such as MS-Tag, to identify the proteins in the supernatants.

15 VIII. Summary Of The Data Provided In The Tables

Table 1 shows 1428 novel nucleotide sequences identified through subtracted library experiments. These 1428 novel sequences were determined to be novel through various BLAST searches of available databases. The sequences of Table 1 were reinterpreted and those sequences are set forth in Tables 2 and 3. Table 4 sets forth additional sequence (e.g., full-length sequences) for the sequences of Tables 1-3.

The contents of all references, patents, published patent applications, and databases cited throughout this application are hereby incorporated by reference.

Other Embodiments

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Those skilled in the art will recognize, or be able to ascertain using no more than routine experimentation, many equivalents to the specific embodiments of the invention described herein. Such equivalents are intended to be encompassed by the following claims.

30 What is claimed is:

Claims

		1. An isolated nucleic acid molecule selected from the group consisting of:			
	•		a)	a nucleic acid molecule comprising a nucleotide sequence which	
5		is at le	s at least 90% homologous to a nucleotide sequence of Tables 1-4, or a		
		complement thereof;			
	ęŧ	. "	b)	a nucleic acid molecule comprising a fragment of a nucleic acid	
		comprising the nucleotide sequence of Tables 1-4, or a complement thereof; ar			
			c)	a nucleic acid molecule comprising the nucleotide sequence of	
10	Tables 1-4, or a complement thereof.			a complement thereof.	
		2.	A vect	or which contains the nucleic acid molecule of claim 1.	
15		3.	A host	cell which contains the nucleic acid molecule of claim 1.	
13		4.	An iso	lated polypeptide which is encoded by a nucleic acid molecule	
		compr	comprising a nucleotide sequence which is at least 90% homologous to a nucleic		

5. An antibody which selectively binds to a polypeptide of claim 4.

acid comprising a nucleotide sequence of Tables 1-4.

- 6. A method for producing a polypeptide comprising culturing the host cell of claim 3 under conditions in which the nucleic acid molecule is expressed.
- 7. A method for detecting the presence of a polypeptide of claim 4 in a sample comprising:
 - a) contacting the sample with a compound which selectively binds to the polypeptide; and
- b) determining whether the compound binds to the polypeptide in the sample to thereby detect the presence of a polypeptide of claim 4 in the sample.

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- 8. A kit comprising a compound which selectively binds to the polypeptide of claim 4.
- 5 9. A method for detecting the presence of a nucleic acid molecule of claim 1 in a sample comprising:
 - a) contacting the sample with a nucleic acid probe or primer which selectively hybridizes to the nucleic acid molecule; and
- b) determining whether the nucleic acid probe or primer binds to a nucleic
 acid molecule in the sample to thereby detect the presence of a nucleic acid molecule of claim 1 in the sample.
 - 10. The method of claim 9, wherein the sample comprises mRNA molecules and is contacted with a nucleic acid probe.

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- 11. The method of claim 9, wherein the sample is isolated from cervical tissue.
 - 12. The method of claim 9, wherein the sample is a tumor sample.

- 13. A kit comprising a compound which selectively hybridizes to a nucleic acid molecule of claim 1.
- 14. A method of assessing whether a patient is afflicted with cervical canceror has a pre-malignant condition, the method comprising comparing:
 - a) the level of expression of a marker in a patient sample, wherein the marker is selected from the group consisting of the markers listed in Tables 1-4, and
 - b) the normal level of expression of the marker in a control non-cervical cancer sample,
- wherein a significant difference between the level of expression of the marker in the patient sample and the normal level is an indication that the patient is afflicted with cervical cancer or has a pre-malignant condition.

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- 15. The method of claim 14, wherein the patient has CIN.
- 16. The method of claim 14, wherein the patient has SIL.
- 5 The method of claim 14, wherein the marker corresponds to a secreted protein.
 - 18. The method of claim 14, wherein the marker corresponds to a transcribed polynucleotide or portion thereof, wherein the polynucleotide comprises the marker.
 - 19. The method of claim 14, wherein the sample comprises cells obtained from the patient.

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20. The method of claim 19, wherein the sample is a cervical smear.

21. The method of claim 19, wherein the cells are in a fluid selected from the group consisting of a fluid collected by peritoneal rinsing, a fluid collected by uterine rinsing, a uterine fluid, a uterine exudate, a pleural fluid, a cystic fluid, and an cervical exudate.

22. The method of claim 14, wherein the level of expression of the marker in the sample is assessed by detecting the presence in the sample of a protein corresponding to the marker.

- 25 23. The method of claim 17, wherein the presence of the protein is detected using a reagent which specifically binds with the protein.
 - 24. The method of claim 23, wherein the reagent is selected from the group consisting of an antibody, an antibody derivative, and an antibody fragment.

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25. The method of claim 14, wherein the level of expression of the marker in the sample is assessed by detecting the presence in the sample of a transcribed polynucleotide or portion thereof, wherein the transcribed polynucleotide comprises the marker.

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26. The method of claim 25, wherein the transcribed polynucleotide is an mRNA.

The method of claim 25, wherein the transcribed polynucleotide is a cDNA.

- 28. The method of claim 25, wherein the step of detecting further comprises amplifying the transcribed polynucleotide.
- 15 29. The method of claim 14, wherein the level of expression of the marker in the sample is assessed by detecting the presence in the sample of a transcribed polynucleotide which anneals with the marker or anneals with a portion of a polynucleotide wherein the polynucleotide comprises the marker, under stringent hybridization conditions.

- 30. The method of claim 14, wherein the level of expression of the marker in the sample differs from the normal level of expression of the marker in a patient not afflicted with cervical cancer by a factor of at least about 2.
- 25 31. The method of claim 14, wherein the level of expression of the marker in the sample differs from the normal level of expression of the marker in a patient not afflicted with cervical cancer by a factor of at least about 5.

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- 32. The method of claim 14, comprising comparing:
- a) the level of expression in the sample of each of a plurality of markers independently selected from the markers listed in Tables 1-4, and
- b) the normal level of expression of each of the plurality of markers in
 samples of the same type obtained from control humans not afflicted with cervical cancer,

wherein the level of expression of more than one of the markers is significantly altered, relative to the corresponding normal levels of expression of the markers, is an indication that the patient is afflicted with cervical cancer or a premalignant condition.

- 33. The method of claim 32, wherein the level of expression of each of the markers is significantly altered, relative to the corresponding normal levels of expression of the markers, is an indication that the patient is afflicted with cervical cancer.
- 34. The method of claim 32, wherein the plurality comprises at least three of the markers.
- 20 35. The method of claim 32, wherein the plurality comprises at least five of the markers.
 - 36. A method for monitoring the progression of cervical cancer or a premalignant condition in a patient, the method comprising:
- a) detecting in a patient sample at a first point in time, the expression of a marker, wherein the marker is selected from the group consisting of the markers listed in Tables 1-4;
 - b) repeating step a) at a subsequent point in time; and
- c) comparing the level of expression detected in steps a) and b), and
 therefrom monitoring the progression of cervical cancer or a pre-malignant condition in the patient.

- 37. The method of claim 36, wherein the marker corresponds to a secreted protein.
- 38. The method of claim 36, wherein marker corresponds to a transcribed polynucleotide or portion thereof, wherein the polynucleotide comprises the marker.
 - 39. The method of claim 36, wherein the sample comprises cells obtained from the patient.
- 10 40. The method of claim 39, wherein the patient sample is a cervical smear.
 - 41. The method of claim 39, wherein between the first point in time and the subsequent point in time, the patient has undergone surgery to remove a tumor.
 - 42. A method of assessing the efficacy of a test compound for inhibiting cervical cancer in a patient, the method comprising comparing:
 - a) expression of a marker in a first sample obtained from the patient and exposed to the test compound, wherein the marker is selected from the group consisting of the markers listed in Tables 1-4, and
 - b) expression of the marker in a second sample obtained from the patient, wherein the sample is not exposed to the test compound,

wherein a significantly lower level of expression of the marker in the first sample, relative to the second sample, is an indication that the test compound is efficacious for inhibiting cervical cancer in the patient.

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- 43. The method of claim 42, wherein the first and second samples are portions of a single sample obtained from the patient.
- 44. The method of claim 42, wherein the first and second samples are portions of pooled samples obtained from the patient.

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45. A method of assessing the efficacy of a therapy for inhibiting cervical cancer in a patient, the method comprising comparing:

- a) expression of a marker in the first sample obtained from the patient prior to providing at least a portion of the therapy to the patient, wherein the marker is selected from the group consisting of the markers listed in Tables 1-4, and
- b) expression of the marker in a second sample obtained from the patient following provision of the portion of the therapy,

wherein a significantly lower level of expression of the marker in the second sample, relative to the first sample, is an indication that the therapy is efficacious for inhibiting cervical cancer in the patient.

- 46. A method-of-selecting a composition for inhibiting cervical cancer in a patient, the method comprising:
 - a) obtaining a sample comprising cancer cells from the patient;
- b) separately exposing aliquots of the sample in the presence of a plurality of test compositions;

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- c) comparing expression of a marker in each of the aliquots, wherein the marker is selected from the group consisting of the markers listed in Tables 1-4; and
- d) selecting one of the test compositions which induces a lower level of
 expression of the marker in the aliquot containing that test composition, relative to other test compositions.
 - 47. A method of inhibiting cervical cancer in a patient, the method comprising:
 - a) obtaining a sample comprising cancer cells from the patient;
 - b) separately maintaining aliquots of the sample in the presence of a plurality of test compositions;
 - c) comparing expression of a marker in each of the aliquots, wherein the marker is selected from the group consisting of the markers listed in Tables 1-4; and
- 30 d) administering to the patient at least one of the test compositions which induces a lower level of expression of the marker in the aliquot containing that test composition, relative to other test compositions.

- 48. A kit for assessing whether a patient is afflicted with cervical cancer or a pre-malignant condition, the kit comprising reagents for assessing expression of a marker selected from the group consisting of the markers listed in Tables 1-4.
- 49. A kit for assessing the presence of cervical cancer cells or pre-malignant cervical cells or lesions, the kit comprising a nucleic acid probe wherein the probe specifically binds with a transcribed polynucleotide corresponding to a marker selected from the group consisting of the markers listed in Tables 1-4.
- 10 50. A kit for assessing the suitability of each of a plurality of compounds for inhibiting cervical cancer in a patient, the kit comprising:
 - a) the plurality of compounds; and

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b) a reagent for assessing expression of a marker selected from the group consisting of the markers listed in Tables 1-4.

51. A method of making an isolated hybridoma which produces an antibody useful for assessing whether a patient is afflicted with cervical cancer or a pre-malignant condition, the method comprising:

isolating a protein or protein fragment corresponding to a marker selected from the group consisting of the markers listed in Tables 1-4;

immunizing a mammal using the isolated protein or protein fragment; isolating splenocytes from the immunized mammal;

fusing the isolated splenocytes with an immortalized cell line to form hybridomas; and

- screening individual hybridomas for production of an antibody which specifically binds with the protein or protein fragment to isolate the hybridoma.
 - 52. An antibody produced by a hybridoma made by the method of claim 51.

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53. A kit for assessing the presence of human cervical cancer cells or premalignant cervical cells or lesions, the kit comprising an antibody, wherein the antibody specifically binds with a protein corresponding to a marker selected from the group consisting of the markers listed in Tables 1-4.

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- 54. A method of assessing the cervical cell carcinogenic potential of a test compound, the method comprising:
- a) maintaining separate aliquots of cervical cells in the presence and absence of the test compound; and
- b) comparing expression of a marker in each of the aliquots, wherein the marker is selected from the group consisting of the markers listed in Tables 1-4,

wherein a significantly enhanced level of expression of the marker in the aliquot maintained in the presence of the test compound, relative to the aliquot maintained in the absence of the test compound, is an indication that the test compound possesses human cervical cell carcinogenic potential.

- 55. A kit for assessing the cervical cell carcinogenic potential of a test compound, the kit comprising cervical cells and a reagent for assessing expression of a marker, wherein the marker is selected from the group consisting of the markers listed in Tables 1-4.
- 56. A method of treating a patient afflicted with cervical cancer, the method comprising providing to the patient an antisense oligonucleotide complementary to a polynucleotide corresponding to a marker selected from the markers listed in Tables 1-4.

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57. A method of inhibiting cervical cancer in a patient at risk for developing cervical cancer, the method comprising inhibiting expression of a gene corresponding to a marker selected from the markers listed in Tables 1-4.

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Table 1

Sequence 1

Т

TTGGGATTTGAGACTTCGATCTAGGCCTCTGNATTTCTTTCTAGTTTTTCCCTACCAT T

CTTTAATCGGAGTATCCAAGCCCAATCACCCTGTANCCTATGTCCTAAAGCATCTTGAAT
TGNTTGNTTCANGTTTTTNCTTCATGNAGGAGTGTCTTTTGCNCACNCCTCTTAAGCC
TA

TCTGGATCCCCACTTCANNCCTCTGAAGGGTTCTGTTAAAANTTCTAACCCTATCTNT AT

NGAATTTGTCCCC

Sequence 2

GCCGGAAGACCAACCGAGATGAAGGTGAAGATGCTGAGCCGGAATCCGGACAATTATGTC
CGCGAAACCAAGTTGGACTTACAGAGAGTTCCAAGAAACTATGATCCTGCTTTACATCCT
TTTGAGGTCCCACGAGAATATATAAGAGCTTTAAATGCTACCAAACTGGAACGAGTATTT
GCAAAACCATTCCTTGCTTCGCTGGATGGTCACCGTGATGGAGTCAATTGCTTGGCAAAG
CATCCAGAGAAGGTGGCTACTGTCCTTTCTGGGGCGTGTGATGGAGAGGTTAGAATTTGG
AATCTAACTCAGCGGAATTGTATCCGTACCT

Sequence 3

CGGAGAGGAGTCCTTACTTAGAGTNAAGCTGAAGGAGCATCACAACCCCAAAGACTGTTA TGTTGTGAAATTTAGGCTGTGTTTTAATAATACTGATGATGATANGATGAAATAGTAAT

TATTGATTACTATATCTACTATATGTCCGTAAGATAGCAGGGTCTTTATACTCGGAATC

CATTTGATCCTCATAGTTTTTATTGGTGTATTATTATCCTCATTTTACAGATACAGAAAC
TGAGGCTTCAGAGAGGCTGTGTAATCAAGAGTTTGTATGCCTTTCATCTGAGGAGGTTGA
GGACAATCCCAAGTTAGAAAAATAAATGTCTTTAGCATTATTTTTCCTTAATGTTTAGAA
TATTAATAAGTTACTCAGATAATCTATTGGAATTTTCTTCATGGCAGGGGAAGAGGCTA
GAGTTG

G

Sequence 4

TACTCAGTTTCCTTATCTATAACATGGGGATAATATTANGTATGCTACATCCGTTGTTA

GAGGATCAATATCTGTAAAGCTCTTAGAACATGCATTTTTCTTNTACTAAATGGGNAAGG
TCTGGCNGGCGCGGTGGCTCACACCTGGTAATCCCAGCACTGTGGAAGGCTGAGGNGGGG
GCAGTTGGGGAGCGAGGGGTTGTACTACTNCAATGTAACTTGCTTTCTCAGAAATTNAGG
CNAAAAGTCTTACTGACCATGTAAAGGAAATCCAACAATTATAAACAGTCTCNTGCCTTT
AAGGAGCTTATAGTCTAGTTANGAAACCAGACTTAAACATATGAAAAGTTTAAACATTGG
Sequence 5

TAACCCAGAGCCAGGCTGTGCTTTTTTTGTACCT

Sequence 6

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Table 1

GT

TTCTTTGGGACTCAATGCCTTGGGCTTGGCATTGGGTAAAGCCGACTGGCAAGTTTCATT CTGACCAAGCTCTATAGTAGTCCGGNGTGGACCTCTTGCCCTCCCTGCTCTGCGGAAAGC TTNCTCAGCCTTTGCTTCTTCACTTATTTACTATTTGCGGGGGTCCTGGGGGTACCCTC

NCGCTCTAGAACTAAGTGGGATCCCCCCCGGGCTGCAAGGAATTCGAATATCAAGCCTTA TCGAATCCGTCNAACCTTCGAAGGGGG

Sequence 7

GGTGGCGGCCGAGGTACGGATACAATTCCGCTGAGTTAGATTCCAAATTCTAACCTCTCC ATCACACGCCCAGAAAGGACAGTAGCCAGCTTCTCTGGATGCTTTGCCAAGCAATTGAC TCCATCACGGTGACCATCCAGCGAAGCAAGGAATGGTTTTGCAAATACTCGTTCCAGTTT GGTAGCATTTAAAGCTCTTATATATTCTCGTGGGACCTCAAAAGGATGTAAAGCAGGATC ATAGTTTCTTGGAACTCTCTGTAAGTCCAACTTGGTTTCGCGGACATAATTGTCCGGA

CCGGCTCAGCATCTTCACCTTCATCTCGGTTGCTCTTC

Sequence 8

AGCAACCGAGATGAAGGTGAAGATGCTGAGCCGGAATCCGGACAATTATGTCCGCGAAAC CAAGTTGGACTTACAGAGAGTTCCAAGAAACTATGATCCTGCTTTACATCCTTTTGAGGT CCCACGAGAATATATAAGAGCTTTAAATGCTACCAAACTGGAACGAGTATTTGCAAAACC ATTCCTTGCTTCGCTGGATGGTCACCGTGATGGAGTCAATTGCTTGGCAAAGCATCCAGA GAAGCTGGCTACTGTCCTTTCTGGGGCGTGTGATGGAGAGGTTAGAATTTGGAATCTAAC TCAGCGGAATTGTATCCGTACCTCGGCCGTTCTANACTAGGGGATCCCCCGGCC

Sequence 9

GGTGGCGGCCGAGGTACCACATGCACTGATAGCTCTCTTTGTATGAACAGGAGCTGTGGC AGGCCCTATGCCAGGGAGAAAGTAAGATTGGAAAAGAGCTTACCAAGGAGGTGGCATTTG CACTGTGCTTAAGGGGCAAGAAAAACGTCTTCCAATCAGGAGCCACAAATGCTTGGCTGA AGTGCTACTGCTCTTTCATCCTGGAGCTGGAACAGACGTCACCAGTCAATCATGATGGCT GCTGGGTGCACTGGCTAACATCTATAATCCCAGCACTTTGTGAGGCTGAGGGTGGGAAGA TTGCTTGGGGCCAGGAGTTTGAGACCAGTTTTGGGCAAATTGCAAGACCCTGTCTCTGCA AAAAAATATAAAATGTAGCTGAGTGTGGTGGCACCTGTAGACCCAGCCCCAGCTACTCGA GAGGCTGAGATGGGAGGATCGCTTGGGCCTAGGAGTTCGAGGCTGCAGTGAGCTATGATT GCACCACTGCACTCCAGCCTNGGTGACAGAACANGACCTGTCTNTAAAAANCATTAAATT AAATCAAAAAAAAAAAAAAAAAAAAAAAG

Sequence 10

GGTGGCGGCCGAACATCCTGTTTTAACTAGCACAGACAAAACCTATGTGTTACTATCAAA ATAAAATTTAGAAAAACAATTTTCTTATAAAATTTTCTGTTTTGTATTTGGACTACATAAA AAAAAGATCACAGCAATTAGGCCCGTTCTATTCAATTTTGCCATGAGCTAAAAATCACAT TCTTCACAAAGTAAATTACCGCCCTGTTTTTTATTCTTAAGCACTAGGGTTAGGATTGT

ACCTTAATGCCCGGAGAGGTAATATTTTACTTTAAAATGCATAACCCATGTGGACATGCT AGGTCTTCCAAAA

GGTGGGCCGGGCCCGGACCCGGNCCAAGACCTACCCGCCGGNGNANTTGGCCTNGGGCC CTGGGGTTTCCTCCCNAGGGGAAGCCTTGTAGAATCCACCTNGGAAANCCTTGTNGGGTN CCGCTTGCCCCGTNGNATGGNTGGNGTAGGGGAAGGGCAAAGTACGCCTTCAAGAATAGG NAAAAAGGGANGGGGGGGGGACCACTCAAGGCCTGGCAAAGGCCAAGTGGGACCAAG TGGCCCAAGGGGGCTTCTTGGAATGGTGGNTCTCTCACAAGCTTTGTAANAAAGGTGGTG GAAGAACCAAGCCTTGNCCCTTTTGTGGGTCGNGNGACCTTGGAATAAAGGGCCAAAAGG

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Table 1

AAGTTTTGGTTTCCCTTGGCCCCCNTTTTTCCCTTNTTTGNTTGGAACCTTTTGGGAAA

Α

GAAAACCCCCTTGGGACCTTTTTTGGTTTTTTCCTTTGGCNAAAAAAGGGGGCCACCCC TTGGCCAAATTGGATGGTTCCTTGNATTGGTTTTTCCGGTCGCTTTANGGGGCCAATT NA

NAANTTGGTTTGTAAAGGGGAAAG

Sequence 12

Sequence 14

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TGGCGGCCGAGGTACGGTATTCTCTTCAAACAAGAGCAAGCCCATGATGATGCCATTTGG
TCAGTTGCTTGGGGGACAAACAAGAAGAAGAAAACTCTGAGACAGTGGTCACAGGCTCCCTA
GATGACCTGGTGAAGGTCTGGAAATGGCGTGATGAGAGGCTGGACCTGCAGTGGAGTCTG
GAGGGACATCAGCTGGGAGTGGTCTGTGGGACATCAGCCACACCCTGCCCATTGCTGC
ATCCAGCTCTNTTGATGCTCATATTCGTCTTTGGGACTTTGGAAAATGGCAAACAGATAAA
GTCCATAGATGCAGGACCTGTGGATGCCTGGACTTTTGGCCTTTTCTCCTGATTCCCAGTN
TCTGGCCACAGGAACTCATGTCGGGAANGTGAACATTTTTGGTGTGGAAAGNGGGAAAAA

Sequence 15

Sequence 16

CGGTGGCGCCCCGGGCAGGACGCGGGAAGAGGTAATTTTAATGCCATTTTCATGGGA CACTTGGGAGCTAGATTAGAAGAAGCCAAGACTAGAATCGGGGAGATGAGTTGCAGAGGG NNGTGGTGAAGGTCTGAAGGAAGGTAGGAAAAGGTCGGACACATTCCAGACATATTTAGG GGTGGAGGTGGTTGGATATGGGGAGTT

Sequence 17

TTCGCGGTGGCCCGCCCGGGCAGGTGACTTTAGTCCTCACTCTGTGGCCAGGGGCA
TTACAGCATAGGGGTCCCTTTTGTCAGGGATTTATGATGGCATCACACGCAGGATTCAGA
GAGCATNAATTGAAAAATACATATGATTGGCTGGGCGTGGAGGCTTATGCCTGTAATCCC
AGCACTTTGGGAGGCTGAGGTGGGTGGATCACCTGAGGTCGGGAGTTCGAGACCAGTCTG
ACCAACATGGAGAAACCCTTTCTCTACTAAAAATACAAAATTAGCCGGGCGTGGTGGCAC
ATGCCTGTAATCCCAGCTACTAGGGAGGCTGAGGCAGGAGAATTGCTTGAACC

Table 1

4

Sequence 18

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ACACAGATGCTCACACTGGGGCCAGATCTGCATCTGTTAAATCCTGCTGCAGGAATGACACCTGGTACCTGCCCG

Sequence 19

TTTTTTTTTTTCCCCCGGGAGAGGAATTGGGAAGAGCAAATTGCTGCTGAAAATT

GAGGTACCCAATTTTTTAAGTTCTAAGGTAGCTTTCTCAAAGAAAACCATTTCAGGGT

GTGGCGGCCGAGGTACGATTCTACTGTTTTGTCTTCTAGGATCAACTCGGTCATTACCAC
AGCTCAAACCTGCTTTGGGACTCCCTCCCACAAAACTGGCTCCGGATCAGGGAACACTAC
CAAACCAACAGCAGTCAAATCAGGTCTTTCCTTCTTTAAGTCTGATACCATTAACACAGA
TGCTCACACTGGGGCCAGATCTGCATCTGTTAAATCCTGCTGCAGGAATGACGCCTGGTA
CCTGCCCG

Sequence 22

Sequence 23

Sequence 24

5

Table 1

GGTACCTGCCCG

Sequence 25

CCGCGGNGGCGGCCGGCCGGCAGGTACGCGGGAGGCACATTCTTTTCTACGTGAAGAGT TTTGTAAACTGAACTTTGTTTTCAGTTCCGGCTCCAGCCATCCTGGGGTNGCTTGCCA AT

AGATGAATCCCACTCGTTTGACCCATGACGCTCCTTCTTTTCATTTCTCCCTCTTTCCCCCC

ACAGCAGTGCATGTCCACCATACCACCTGAGAGTCTGTGGAATCTAATTTTCTGTTATAC
TTCTTTCCTTACAC

Sequence 26

GCGGTGCGGCCGAGGTACGGATACAATTCCGCTGAGTTAGATTCCAAATTCTAACCTCT CCATCACACGCCCCAGAAAGGACAAGTAGCCAGCTTCTCTGGATGCTTTGCCAAGCAATT GACTCCATCACGGTGACCATCCAGCGAAGCAAGGAATGGTTTTGCAAATACTCGTTCCAG TTTGGTAGCATTTAAAGCTCTTATATATTCTCGTGGGACCTCAAAAGGATGTAAAGCAGG ATCATAGTTTCTTGGAACTCTCTGTAAGTCCAACTTGGTTTCGCGGACATAATTGTCC GG

ATTCCGGCTCAGCATCTTCACCTTCATCTCGGTTGCTCTTC

Sequence 27

ACGCGCGCGCCGAGGTACGGATACAATTCCGCTGAGTTAGATTCCAAATTCTAACCT
CTCCATCACACGCCCCANAAAGGACAGTAGCCAGCTTNTCTGGATGCTTTGCCAAGCAAT
TGACTCCATCACGGTGACCATCCAGCGAAGCAAGGAATGGTTTTGCAAATACTCGTTCCA
GTTTGGTAGCATTTAAAGCTCTTATATATTCTCGTGGGACCTCAAAAGGATGTAAAGCAG
GATCATAGTTTCTTGGAACTCTCTGTAAGNCNCAACTTGGTTATCGCCGGACATAATTGG
ACCCGGTATTTCCGGCTCAGNCATCTTCACCTTTCATCTAAGGNTTGCATNTTCCGGGCC
CGNTCTAAGAACTAGTGGGATCCCCCCGGGGCCTGCAGGGAATTCCGATAATCAAAGGCT
TAATCTGAATACCCGGTCGGACCCTTCGGAGGNGGGGGGGCCCCGGNTACCCCAAGCTTT
TTTGGTTTCCCTT

Sequence 28

CGGCCGAGGTACTCAGTTTCCTTATCTATAACATGGGGATAATATTAGTAGCTACATCGT
TGTTATGAGGATCAATATCTGTAAAGCTCTTAGAACATGCATTTTTCTTCTACTAAATTT
TAAGGNCTGGCAGGCGGGGGGCTCACACCTGGNATCCCAGCACTGTGGAAGGCTGAGGT
GGGGGCAGTGGGGAGCGAGGGGNTGTTACTACTCCAATGTAACTGCTTTCTCAGAAATTA
AGGCAAAAAGTCTTACTGACCATGTNAAGGAAATCCAACAATTATAAACAGTCTCTGCCT
TTAAGGAGCTTATAGTCTAGTTAAGAAACCAGACTTAAACATTGAAAAGTTAAACATTG
GCCAGGCACAGTGGCTCATGCCTATAATCCCAGCACTTTGGGAGGCCAAGGCAGGAGGAT
CACCTGAGGTCANGAGTTCGAGACCAGCCTGACCAGCNTGGAGAAACCCCATCTN
Sequence 29

GCGGTGCCGAGGTACTCAGTTTCCTTATCTATAACATGGGGATAATATTAGTAGCT ACATCGTTGTTATGAGGATCAATATCTGTAAAGCTCTTAGAACATGCATTTTTCTTCTA

TAAATTTTAAGGTCTGGCAGGCGCGGTGGCTCACACCTGGTAATCCCAGCACTGTGGAAG GCTGAGGTGGGGGCAGTGGGGAGCGAGGGGTTGTTACTACTCCAATGTAACTGCTTTCTC AGAAATTAAGGCAAAAAGTCTTACTGACCATGTAAAGGGAAATNCAACAATTATAAACAG TCTCT

Sequence 30

GGCGGCCGAGGTACTCAGTTTCCTTATCTATAACATGGGGATAATATTACGTAGCTACAT CGTTGTTATGAGGATCAATATCTGTAAAGCTCTTAGAACATGCATTTTTCTTCTACTAA

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-Table 1

TTAAGGCAAAAAGTCTTACTGACCATGTAAAGGAAATCCAACAATTATAAACAGTCTCTG CCTTTAAGGAGCTTATAGTCTAGTTAAGAAACCAGACTTAAACATATGAAAAGTTAAACA TTGGCCAGGCACAGTGGCTCATGCCTATAATCCCAGCACTTTGGGAGGCCAAGGCAGGAG GATCACCTGAGGTCAGGAGTTCGAGACCAGCCTGACCAGCATGGAGAAACCCCATCTTTA CTAAAAATACAAAACTAGTTGGGCATGGTGGCGCATGCCTGTGATCCCAGCTACTTGAGA GGCTGAGGCGGAGAATCACTTGAACCCGGGAGGTCGAGCGGCCGCCCGG

CCCGCGGTGGCGGCCGAGGTACTCAGTTTCCTTATCTATAACATGGGGATAATATTAGTA GCTACATCGTTGTTATGAGGATCAATATCTGTAAAGCTCTTAGAACATGCATTTTTCTT

TACTAAATTTTAAGGTCTGGCAGGCGCGGTGGCTCACACCTGGTAATCCCAGCACTGTGG AAGGCTGAGGTGGGGCAGTGGGGAGCGAGGGGTTGTTACTACTCCAATGTAACTGCTTT CTCAGAAATTAAGGCAAAAAGTCTTACTGACCATGTAAAGGAAATCCAACAATTATAAAC AGTCTCTGCCTTTAAGGAGCTTTATAGTCTAGTTAAGAAA

Sequence 32

GCGCCGAGGTACGTATGCACTTGCTTGCCATCTAAGCAGGGACAATGGCAGTTCATATC ATGATGTTACTTTGATTCTCTGACCAAACTGGCCTGTGAGCACCCTGGGCCTFTGFTC

CTGTCAAAGGCCTTAAGACAGGTTTACCCTGTAGCCAGGTCTGGAAGACAGAGCTGGGTT AAAGCTGGGTGGGAAAAGTGAAAAAGGTCAGGTTTACATTCCTACGCGGAAAAGGATGTA ACACGGGGCCACATCCTATGCCCAATCCCAAGGCAGGAGGCAGGGAAGTGGCTGCCAAA CCTGTTGTAGGAGAGTAATAAATGACTTGAGAGTAAGCCTAAGCAAACTCAAGTGGGAAG GGGAGTGGCTGTAAAATAGTTTAAGAGACTCTCTCAGGAAGTCAGCGTAATTGATGTGT AGAAAGGTAACAGTCAACAGTTCTCCTAACAAGACAGCTTCAAAGCAGCAGCTATAGTGG AGCATTCCTGAGGCCTGCTGCAGATCAAAGCATGAATGTGCAGACTGGTCCTCTTGCCCA GCGTTTCTTTC

Sequence 33

CCGCGGTGGCGGCCGAGGTACGTATGCACTTGCTTGCCATCTAAGCAGGGACAATGGCAG TTCATATCATGATGTTACTTTGATTCTCTGACCAAACTGGCCTGTGAGCACCCTGGGC CT

TTCTTCCTCTGTCAAAGGCCTTAAGACAGGTTTACCCTGTAGCCAGGCTCTGGAAGACAG AGCTGGGTTAAAGCTGGGTGGGAGAAGTGAAAAAGGTCAGGTTTACATTCCTACGCGGAA AAGGATGTAACACGGGGCCACATCCTATGCCCAATCCCAAGGCAGGGAGGCAGGGAAGTG GCTGCCAAACCTGTTGTAGGAGAGTAATAAATGACTTGAGAGTAAGCCTAAGCAAACTCA AGTGGGAAGGGGGAGTGGGCTT

Sequence 34

GCGCCGAGGTACCAGTTAAAGTCTTCTAGCCTGTATCCCCACTCCTTTTTGCCACTTGC AAATTCGGTAGCCCAGTTACCCAGAGGGAGGCATAGGAGGGAAAACGAAGACTGAAAAGG GCTAATATGAGTTTTGTCTCTTACAATTTATCTGCATCTTATCCTTCCCCCACCCCCCA

CATTAAATCATTAAACATTCTATCCAAATAGGATGCCCTTCTGTGGAACTGCATATTTG

AAACCATACTGCCTGTTTAACTTATGCACTCCACTGGGAACTTACAGTATCTGTTTCCC

CAATACTTGCAGTCATATCAGTTACAACCGCTGGGTGTGTATTGGTTCAAAAGGACCTAC CTACAAGGTTATATCAATCCATTGTCCAATTTGAGAGATTTTTTCTGAATCCAGTTAAA

TAATTTTTGGCTACACCTGGGGACACTTCCCAGGACAACAATGACTTGTAGTCTAGTGCC CAAGAAAGCCAAAAAGGCCCGGCAAC

Sequence 35

GGTGGCGGCCGAGGTACGGATACAATTCCGCTGAGTTAGATTCCAAATTCTAACCTCTCC

7

Table 1

ATCACACGCCCCAGAAAGGACAGTAGCCAGCTTCTCTGGATGCTTTGCCAAGCAATTGAC
TCCATCACGGTGACCATCCAGCGAAGCAAGGAATGGTTTTGCAAATACTCGTTCCAGTTT
GGTAGCATTTAAAGCTCTTATATATTCTCGTGGGACCTCAAAAGGATGTAAAGCAGGATC
ATAGTTTCTTGGAACTCTCTGTAAGTCCAACTTGGTTTCGCGGACATAATTGTCCGGA

CCGGCTCAGCATCTTCACCTTCATCTCGGTTGCTCTTC

Sequence 36

Sequence 37

Sequence 38

CCGCCGAGGTACTTAAGTTTTCTTCAGTTACAGCTACCATGTGAAAATAATTCTCTGC

Sequence 39

GCCTCCCGCGGTGGCGGCCGAGGTACAGTTTAGAAAACTGTGGGGCTGAGTCCTCGGGG CCGTGGGGCGCAGCGTGGCTGATCACCATCATAACGGGCCTATGGGGATACATTCTCTTA GACATTTTGAAGTAATTAATGCTCTCGTTAGTGATTAAGTCTGTGAAGTAGTCCTTTGC

TAATCAAATCCATGCTTTTCTTTGATGCCATTGCGACAAACAGTGTAATTATAGAAGCG

GAATTCTTGATTAATCCAAGCCATTCTCGCCACCCAGGGGGGGATGTAGCTGCCATTATAT TCATTGAGGTATTTTCCAAAAAAGGCTGTTCTGTAGCCAGTGTTGTTAAGATATACAGCA AAAGTCCGAGGCTCATGCATGGCCTGCCACGAGGGGGAAGAGCAGTTCTCGTTGTTGGTG

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Table 1

 ${\tt TAGACATTGTGATTGTGCACATACTTNCCGGTGAGCATGGAGGACCGTGACGGCAGCACATGGGGTGTAGTCACAAAGGCATTGATGAAGGTGGCCCCCCATGTT}$

Sequence 41

Sequence 42

Α

NTTGGAGCTCCCGCGGTGGCGGCCGGAGAGCAACCGAGATGAAGGTGAAGATGCTGAGCCGGAATCCGGACAATTATGTCCGCGAAACCAAGTTGGACTTACAGAGAGTTCCAAGAAACCTATGATCCTGCTTTACATCCTTTTGAGGTCCCACGAGAATATATAAGAGCTTTAAATGC

ACCAAACTGGAACGAGTATTTGCAAAACCATTCCTTGCTTCGCTGGATGGTCACCGTGAT GGAGTCAATTGCTTGGCAAAGCATCCAGAGAAGCTGGCTACTGTCCTTTCTGGGGCGTGT GATGGAGAGGTTAGAATTTGGAATCTAACTCAGCGGAATTGTATCCGTACCT Sequence 43

ATTGGAGCTCCCGCGGTGGCGGCCGGAGAGCCAACCGAGATGAAGGTGAAGATGCTGAGCCGGAAATCCGGACAATTATGTCCGCGAAACCAAGTTGGACTTACAGAGAGTTCCAAGAAACCAAGTTGGACTTACAGAGAGTTCCAAGAAACCAAGTTGGACCTTTACATCCTTTTTGAGGTCCCACGAGAATATAAAGAGCTTTAAATGC

ACCAAACTGGAACGAGTATTTGCAAAACCATTCCTTGCTTCGCTGGATGGTCACCGTGAT GGAGTCAATTGCTTGGCAAAGCATCCAGAGAAGCTGGCTACTGTCCTTTCTGGGGCGTGT GATGGAGAGGTTAGAATTTGGAATCTAACTCAGCGGAATTGTATCCGTACCT Sequence 44

TGAGGNGGAAGGATTGCTTGAGCCCAGGAGTTTGAGGCTGCAGTGAGCTATGATCACAAC ACTGCACTCAAGCCTGGGCAACAGAGCAAGACCCTGACTGTAAAAAAATTTTTTTACATT AATTTTTAAAAGTGAGGTTTTTACCTGATGATTGNGTAGGTTTCTCCTAGCTCCAAAGT

TCCGGCTCCTACGACTCTAAATATAACCTTCAAGGAAAGNGGAGCTGGTTTACTCTTTTC
TGATAATATCAAGCCATTCCTGGCTGGGCGTGGNGGCTCATGCCTATAATCCCAGCACTT
TGGGAGGCCCCGCGTACCT

Sequence 45

GGGNGGCTCCCACCGCGGTAGGCNGGCCGCCCGGGCCAGGTACGCGGGNAATTCAAGGAT
GGGATTAAAGGATTTAAACCGTTTAGGACCCTAAAAGCATAAAAACCCCTTAGAAAGGAA
AATCTTAGGGCAATACCCATTGGAGGGACCTTAGGGCCTTGGGACCAAAGGACTTTCATG
GACTTAAAAACCACCCCAAAAGGCAATTGGGCAANCCAAAANGCCCCAAAATTAGGNCCA
AATNGGGGATTCTTAACCTTAAAACTTTAAAGGAGGCTTTNTTGGCCCCAGGCCAAAANG
GAAAACTTTCCCCTTCNAGANGGNGGGACCCNGGGCCANCCCTTTCCNGGGAATNGGGGG
GGGAAAAATTT

Sequence 46

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Table-1

TCAAATTATATATATATGATTTATAAATTATTGTTATAGATTCCTGGAAAGTTAATCCAT CTCACCATTACATAATACCAATCTCTCTCGGCCGGGCGCAGTGGCTCACGCCTGTAGTCT CAGCACTTTGGGAGTCCGAGGCGGGTGAATCATGAGGTCCAGAGATCGAGACCATCCTGG CCAACAAGGTGAAACCCCATCTCTACTAAAAAT

Sequence 47

CTAACCTCACATTTAATTGCGTTTGCGCTCACTGCCCCGCTTTTCCAGTCGGGGAAACCT TGTTCGTGCCAGCNTGCAATTTAATNGAATCGGGCCCAACNGCCGCCGGGGGGAGGAGGG CCGGGTTTTTGGCGGTATTGGGGGCGCCTTCTTTCCCGCTTTCCTTTCGCCTCACTT GAA

CTTCGCCTNCCGCCTTCGGGGTCC

Sequence 48

CGCGGTGGCGGCCGGCCNAGGTACAAGNGACAATGCTGGATGCCAAGCAGNTCCCC CCTACCGTCTCACTGCCCCTCAAGACTTCAAGGCCACTCTCCCCATAAACATCATGACTA CAGATTTAGGTGGAAGAGCAGCCATGTTTGAAGGGCACATGTGATGAGTGGGGGGGCAGCA AGATGCCATTTCTGCATCTCCCAGAAGGGATGAGTCTTTGTCCCGATGCAAGCCCCCTCT TCGTTGGGCTCCCAGCAGTGCTTNCCTNCTCCACCCTGCACTTCATTTNGTTCTTTCC CC

CCCNAACTTTT

Sequence 49

GCGGCCGAGGTACAACTAATGGAGCTCAGAAGCTGTCAAGGATATAAGCAGTGCAACCCA AGACCTAAGAATCTTGATGTTGGAAATAAAGATGGAGGAAGCTATGACCTACACAGAGGA CAGTTATGGGATGGAAGGTTAATCAGCCCCGTCTCACTGCAGACATCAACTGGCA AGGCCTAGAGGAGCTACACAGTGTGAATGAAAACATCTATGAGTACCTGCCCGGGCGGCC GGCTCTAGAACTAGTGGATCCCCGG

Sequence 50

GGCGGCCGGANGAGCAACCGAGATGAAGGTGAAGATGCTGAGCCCGGAATCCGGACAATT ATGTCCGCGAAACCAAGTTGGACTTACAGAGAGTTCCAAGAAACTATGATCCTGCTTTAC ATCCTTTTGAGGTCCCACGAGAATATATAAGAGCTTTAAATGCTACCAAACTGGAACGAG TATTTGCAAAACCATTCCTTGCTTCGCTGGATGGTCACCGTGATGGAGTCAATTGCTTGG CAAAGCATCCAGAGAAGCTGGCTACTGTCCTTTCTGGGGCGTGTGATGGAGAGGTTAGAA TTTGGAATCTAACTCAGCGGAATTGTATCCCGTACC T

Sequence 51

NGGCGCCGAGGTACCTCAGCATATATTGGAAGTGTTTTAGAGTTGGTGAGTTCCCCGTG CCTTCCAGAACTGAACGCTAGGAGGAGCAGNCAGNGAGGACAGACGTCTATGCAGAAACA TGGNGAACCTCTGGAAATGACACACTCTCCGGGCNCAGGGGGCCATTCGTCCATCTTTGA GGTGGACTAATCATGGAGATTCTNGCAGGGCCGGCTGCTATCTCAGATTTTCTAATCGGA AGCAGGCATCCGCGTGGTTTTGTTGAAACTGGACTTTTTATTGTGCTGAAAGCTGTTT GT

TGTGATGATCTCATACTTTGNAGTTGNTCTATCTGCANCACTGACTTTC Sequence 52

CA

GG

CACCCAACAGGCTCTTAATATGAAGACTTGGGCCCTTCCTGAGTTCTAGAAAAGCATTTT TACTAGTTCTTCAGTAATTTCCCCTCCCCTTCATTCTCTGTTCTCTTTTCCTCGGACTC

AATTGGATCTTGGGCCTCTAAGTATAGGCAAGATCATGTTTCTAAAAAGGTTCTTAGAGG GAGGGAGTTCCTGGGAGTGTTATGTGGGGTGGTGCANAAGGTGCTAACAGGTGGNTTTNT

CTTTAGGATGAGCAGGTGG

Sequence 53

GTGAAGATGCTGAGCCGGAATCCGGACAATTATGTCCGCGAAACCAAGTTGGACTTACAG
AGAGTTCCNNGAAACTATGATCCTGCTTTACATCCTTTTGAGGTCCCACGAGAATATATA
AGAGCTTTAAATGCTACCAAACTGGAACGAGTATTTGCAAAACCATTCCTTGCTTCGCTG
GATGGTCACCGTGATGGAGTCAATTGCTTGGCAAAGCATCCAGAGAAGCTGGCTACTGTC
CTTTCTGGGGCCGTGTGATGGAGAGGTTAGAAATTTGGAATCTAACTCAAGCCGGAAATT
GTAATCACGTACCTCGGCCCGCTCTAAGAACTAGTGGGATCCCCCGGNGCTGCAGGGAAA
TTCCGATATCAAGGCTTTATCGATACCGGTCNACCCTNGAGGGGGGGCCCCCGGGTACC
CCAANCTTTTTGG

Sequence 54

Т

CCCCCGCGGGGCGCCGAGGTACACTGGGAAAATGAAGAACTTAACTACATAAAAATAG AGGGACAGTCAAAACTTCACAGGGGGGAAATCAAGTTAAATTCAGAGCTGGATTTAGATG ATGCCATTCTAGAGAAGTTTGCTTTCTCCAATGCTCTATGCCTTTCTGTAAAACTGGCA

TTTGGGAAGCATCACTGGATAAATTTTATTGAATCTATTCAAGNCAATTCCTGAGGCTT

AAAAGCTGGGAAGAAAGTGAAACTATCTCATGAAGAAGTTATGCAGAAAATCGGTGAACT CTTTGCTCTAAGGCACCGTATAAACTTTGAAGTTCAGGACCTTCCTGATTACTCCTGA

TCTTACTGGGGACAGGAGAAAACCNNGGGAAGGGACTTTACCGATAAAAACCGTGGTCAA ATTCCTTTAGCCATTTGGCCCCGAAAGANGTTAAGGGTCCAATGAAATTGAAA Sequence 55

TAGCAGGAGCCCAGGAGTCTGAGCGGNGGGACCCTCATGTCCATGCCTGTTGTCCCTGG
ACNTGAAGACCTGAACTCCCCCGCGTACTCTCGGCCCGNTTCTTAGGAACNTAGGTGGG
ATTCCCCCGGGCCTGCTAGGGGAATTTCCGAATATTCAAAGGCTTAATTCGAATACCCCG
GTCCGAACNCTTCGNAGGGGGGGGGGGCCCCCGNNTTACCCCAAGC

Sequence 56

GCGCCGAAGAGCACCGAGATGAAGGTGAAGATGCTGAGCCGGAATCCGGACAATTATGT CCGCGAAACCAAGTTGGACTTACAGAGAGTTCCAAGAAACTATGATCCTGCTTTACATCC TTTTGAGGTCCCACGAGAATATATAAGAGCTTTAAATGCTACCAAACTGGAACGAGTATT TGCAAAACCATTCCTTGCTTCGCTGGATGGTCACCGTGATGGAGTCAATTGCTTGGCAAA GCATCCAGAGAAGCTGGCTACTGTCCTTTCTGGGGCGTGTGATGGAGAGGTTAGAATTTG GAATCTAACTCAGCGGAATTGTATCCGTACCT

Sequence 57

CAGGGAATGGGNGGCTNCACCTGGGGANNCCTGAGGCCCGTGTTTGTGGAAGATGTA GATTCCTTCATGAAACAGNCTGGNAATGACGACTGCNGATACAGTATTAAAGAAGACTGG ATGAACAGTACCT

Sequence 58

CGGCCGCGGGCAGGTACGCGGGCTATTGTGATTCCCAGTGACCCATAGAACAGGATTTC
ACTAGTCCTATGACATGTGACTGGGCTTGGGAAGTTCNCGTGTCAGNTCCAAAAATCCTA
AGGTGGGATCTTCGCTTTGTGAAGCAAATTAATTACACAACCAAATATTGCCACATTCT

GAGTGAAAAGTGGTCCACGTAGAGCACAATATAATTTAAGTAAAGGAAGATTAAAACATA TTTTTATCCATTTCTTATGGTGGNNNNATTACATGTTTTAGATTTGAGGTCCCCCTCTC

TCAAATATTTTACCAAAAATTCTCANGCNCCTGTTTACCAGGATGGTGGTATCACNATC

GGGCTCAAACCAAAGNTTACAGGAAATTCTNTTGGNGGGTTTTTTATCCTGGGACNATTC
TAAATTTTAAAAAAACCTAAAAAAAGGTTATTTATTTCTTCNCNAATTTATTCANNTGNTTT
TTTAAA

Sequence 59

GATCTAGTTTGTCCCTCTCATTTTGCAGGCAAAGAATTGAATTCTAGAGAGGTTAATTG

Sequence 60

ACATCCTTTTGAGGTCCCACGAGAATATATAAGAGCTTTAAATGCTACCAAACTGGAACG AGTATTTGCAAAACCATTCCTTGCTTCGCTGGATGGTCACCGNGATGGAGTCAATTGCTT GGCAAAGCATCCAGAGAAGCTGGCTACTGTCCTTTCTGGGGCGTGTGATGGAGAGGTTAG AATTTGGAATCTAACTCAGCGGAATTGTATCCGTACCT

Sequence 61

TCCACTCCGCGGTGGCGGCCGAGGTACACGTTACTGTTCCGTCGTATTTTGTAGTCTCT GTTCTGCCCTTTGGAACATCTNTTCGGTGTTCCTGTGGGATCTCTCTACTGCATTNTA

Sequence 62

Sequence 63

TGAGTGAGCCTAACTCACATTTAATTTGCGTTTGGCGCCTCACTGCCCGCTTTTCCAG

TT

Sequence 64

GGGCGNTGGGCTGGAGGAGNGGAGCGGCNNCAGNAGGGGGGCGCCGGCCNCCCCAGCAGA

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Table 1

NGNCTCCAGCAGCAGNNGNANCTCTGAGGCTCCANCNCCCACAGCACCGAACAGNGGGNN CCAGCNNCCACCAGGGGACCCNGGANCCCGGGCGACGGCNGANCCAACNCNGAAGGAGNC NNAAACCTNNNCNNTTGAGCGGNGGNNCNCNCCCGCGACCCCGAGCAAAAGGAAGCCCAG NGCCACCACCAANCCNNANCAANACAACAAANGAANCAANACAAACANAACCCAAAAAAC GAGNAAAAAAAAA

Sequence 65

ACCTTTTTTTTTTTTTTTTGGAGGAGATGGACAGTGTCAGTCTCCTGATANGGNGG

GATGGGTAGGTAATTTAAAAGCTTCTATTATAAAATCTAGTCTCTCTGACACTGCCCTG

CCACTGCAGTCACATCTCCCAATACTGAAGGATCCTGAGAATACCGAGCNGGTCATGACA CTTACTCACGTCATTCACCANTTTTTTTGNACCTGCCCG

GCGGTGGCGGTNTCCCGGGCAGGCCACGCGGAAATCCCCTAACTTCCTTGCTATCTTCCC CAGTGATGAACTGTAAACATAAATGAAGATATGGAAAAATACATCAATTAGGACAACATG ACAATTTCATTAGACTCCTATCAAAGAGTATCAGTTCACAGTTNNTNTAGATACTAGTA

AAAATTCAGATCTTGACTGTTTTCTGGGGATAAAGCANGGCTTTACAATTTAGCAGTNTG NAGCTAGCTTGAAACAGTAAAACAACAACAGCAGAGCCTTAAGTGTATTTTTGTGACCTA AAACATGAACTCAGGGTTTCCAAATTCCTAACAA

Sequence 67

AGGTACTTGAAGGATAAGAAATTACTGTGTCAAATTACCCACAAGTTAAATGCCCATGTT CCAGACCTGTGGCTCTTAGTATCAGGCTTGTGATAGAGAAAAGGCTGCTATGAATTCTAC TCAGTGTGCTTAGACCAAAGGAAACCACCACAGGGATTTCACAGGC

Sequence 68

GGATAAGAAATTACTGTGTCAAATTACCCACAAGTTNTTTGCCCATGTTCCAGACCTGTG GCTCTTAGTATCAGGCTTGNGATAGAGAAAAGGCTGCTATGAATTCTACTCAGTGTGCTT AGACCAAAGGAAACCACCACAGGGATTTCACAGGC

GCGATTGGAGCTCCCGCGGTGGCGGCCGAGGTACCCATTTCATCTTGCACCCGCAATAC CAGGGATTGTTGCGAAGAATCAGTTGTGTTATATTGTCCAAATCATCAAAGATACCCTGA GGTAAATTACTTAGGTTATTATTGGACATATCCAGTCGATAGAGCTGCCTTAGATAAGAA **AAAGCATTTGGGGGCACCCGATTGATGTGGTTATCTTGAAGATAAAGCTTCCTCAGGTTT** GTGCCTGGAAGGTTTACTGGTGCAGCAGTCAGGGAATTCCGCACCAGGGACAGCTCTGTC AAATTAACTAGGTTGAAGAAAACTTTGTCACCTAAACCATGATTGTTCAACAGGTTTCCA TCTAGAACCAGGCGTTTTAGACTAGTGAGACCTTGAAGAGATGGTGATGAAATAGTGGAT ATGCGATTATCATCCAAGCGTAGTTCTTCTATAGTCCTGGGCAAACCCCAGGGAATTGTG CTAAGGTGATTACGGGACAGGAAAAGCAGTCGGAGATAGTTGCTGTCTCGGAATGCTCCC **TCTTNTATGCTAACTGCAGAGACAGAGTTGNCATCTAAATGTAATTCTTCCAGATAGG** Sequence 70

NATTGGAGCTCCCGCGGTGGCGGCCGAGGTACTTTGAATAAAAGGCTTTGGTTTCTCTG ATGTCTTCCAATCACACAGAGCTTGCCCTGATACTCAGCCACACAGTCCAGCAGAC CTATATAGTTTAAGGTTTCATGTTGAACAGCACTTTCAAGAGCTCGCACTCCACTGAC AT

CTTTCAGAATATGCTGGACACTTTCAATGTAACCAGACTTGAGGAGATTTTCATCTCTC

CTTTTAAGGTTTCCTGGGGTGAAAGTATGCTTTCCAAGGCTTCGTGGAACCGTTTCCC

GTAAAAAGACGTTTGAAGTGTATTCTTTAAAGCCATCTTCTCCCAGTTCCAGAATCATC C

CGCTGTTTCCACCTCTCCAACAAGAAAACCTGTTGTTTTGGTCATGGTCTGAAGGA CTCGGGTCACACTTGGTATCACATTCCTTTGCAAGGGGATTTTCAAA

Sequence 71

AGGTACTTGAAGGATAAGAAATTACTGTGTCAAATTACCCACAAGTTAAATGCCCATGTT CCAGACCTGTGGCTCTTAGTATCAGGCTTGTGATAGAGAAAAGGCTGCTATGAATTCTAC TCAGTGTGCTTAGACCAAAGGAAACCACCACAGGGATTTCACAGGC

Sequence 72

GCGATTGGAGCTCCCCGCGGTGGCGGCCGAGGTACATATATCATTTATTCAAGAGGCAGA TTTTAAACGTTTTTGTAAAAAGCTAAATAACACCCAGAGTGACTCAAAAAATTTCTCAA

TCTCTGCCGCCCAGGCTGGAGTGCAGTGGCGATCTTGGCTCACTGCAACCCCTGCCCG Sequence 73

Sequence 74

ATAATTGGGGGCCCTACCCCAAAATGGATTCTTCTCCCCTACAGGTGGAGGGTTTCATTT

Sequence 75

Sequence 76

TTANCCCCTTTTTTTCTAAAGNATTGGGCCAAAGNNTTNTCTTCCNTTTNTTTTNCCA

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Table 1

CCNATTTTNAANGGGGCCTTGGGGTTTTNGNGTTNTTCAANAANAACNTTTTTTTT

GGGGTAAGTCCCNACCCGNGNTANCNTTGGGTNCAAGNTTTCNNTTTCTTTGGGGGGGGA AAAGGCTTGGNGGTTTCCAANGTCCNTCCAATTNTCCTTGGGCCAAANGGGGGGCCTTTT NCCTTCCCCTTCCCCTTNCTTTGGTNNCTTTTT

AAAAAGNGAATTCCANCNTGGGGGGNCTTGGNGAAAAAGCCTTCTTAAACCANGGGCCAA TTTGGCNCAGGCCCTAAAGCCTTACCCTGGCCAAGTTTTTTGAAGAGCCAAAGGGGGGC CAAGNGGGTTCAACCTTTTAACCCCCTTGCTTGGTTCTTGGAAATTGGTCNTCCCCTTGG GGGGAACCAAACAGGGNAGGGGGCNTGGCCACCTTCAACTTGGCCCTTGGAGGTTCCA AGAACCAGGAAAAGGAAGGGGGAATCCATTCCGGGGACCTTGGGAAAAGNCCTCCTTGGG CCAAGGGGGTAATTGGGGCTTAGGCCCCNTGGGGTTTNACCCCCGGTTAAGTTGGAAGAA AAATTNGGGAAGNAAGGGGGGCCCCAACCCTTGGCCCCCAAGCCNTTAACCACCAAGGAA ATGGTTTTTTCCCCCAAGGGGAACAAAACCAAAGGGGAAGGGGCTTTGGTTGTTTCCCC ACCTTTGGNACCAAGGTTTTTCAAGNACCAAGGGAAAAGGTTGGGGGAAAACCCCAACCT TGGGGGNACCCCGGGGAAAAGNCCTTCNTTANNCCAAAGGNTGGGTTTTGGCCCCCCAA CCCCTTGGGGGCCTTAANCTTTANAANTTGGGAAGGCCCCTTTTTGGAAANAACCCCCAG GCCCGGAAAAAACCCAAAATTTAAAAATTTCAAAAAAGGGAAAGGCCAAGNTTTTCNTT **GGTNCCCNAANAAGGN**

Sequence 78

TCCCTTTAAGTGAGGGGTTAATTGCGCCGCTTGGGCCGTAATCATGGTCATTAGCCTGGN TTCCTGTGTGGAAATTGTTANTCNCGCCTCACAAATTTNCAACACCAACCATTACGGAAG GCCCGGGAAAGNCATTAAAAGTTGGTAAAAAGCCCTNGGGGGGTGCCTAAATGGAAGNTG GAGCCTAANCTTCAACATTTTAAATTTNGCGGTTTGCCGCCTTCACCTGGNACCCGGCTT TTTTCCAANTTCCGGGGGAAAACCCCTTGTTCCGGTNGCCCANCCTTGNCCATTTTAAAT GGAAAATCGGGCTCCAAACGNCCCCGGGGNGNAGAAGGGCCNGGTTTTTGGCCGGTTATT TTGGGGGCCNGCCNTTCTTTTNCCGGCNTT

Sequence 79

GAGGTACTTTGGGCCTCTCTGGGATAGAATGTTATTCACGCAGGCACACCAAACAAGAAG GGCAAGTTTCCAAGGATTTCAACCTGCTTCAATCAAGAATGGGGCGGGGGGGAAAGAATG AAAGAACCAGGAATGGGTGGCCAAGGCCCACCAGGTTTCGTTTTTNGANTCCTCCCACCC TTTGGGGTTCCCCTTCCCGGCCCCGAAAAGGTGGAACCCCGNATGGTCCCCTTTCCCATA ATTGGTTTTAACAGGGTAAAAATAACAACCTNGCAAGAAAATNCTTTCAAAGGGCCTCCC AAGNCCCTTGCNTTGGAATTGGGTTGGAAGAAGGTGGAAAAGGTTCTTGGTTCCCCCAAG NACCCCACCTTGGCCCAACTTGGAAACCCCTTGGTCCTTGGCCGAATTGNTCCAAGGTN GGGGCCCCNTTGGTTTTGGGGAATTGGTAATTCCAAGNAAGGAATTGNAAGNGGGAAGC CCCTTTGGGGGGNAANGCCCCTTGGGGCCCCAAGGGGTTTTTTCCTTGGGCNTTGGGGTT AACCCTTGGCCCCCGGGGGCCCGGGGCCCCGGNCTTTCTTAAGAAAACCCTAAGGTNG GGGGAATTCCCCCCCGGGGGCCTTTNGCNAGGGGNAANTTTTCNCAATTANTTCCAAA CCCCGGGGTTNACCCCCAAAGNCNTTTTTTGGGGNTNCCCCCNTTTAAANTNGGAAGGG **GGGTTTAA**

Sequence 80

TGGCGGCGATTACTGTGCGAGAGGTAAAGGATATATGTGGCTACGATTACGGCCTCTCT

GCGGTGGCGGCCGAGGTACAGCCAACCCCCTAGGTGTGGACCAGCTGAGGCACGGTGGGC ATGATATGCAGAGGGACTTGGGGCTTTGCCAAAGGGTAAGCACAAAGGAGGAGTCACGGG TTCTGTTCGAGGCACTGTTGGGATTAGGAGCCGGAGGGGACCTACTTTTGCAGGAACCTA

GCATAACTTTGTGTGACGAGACTGCACAAGACAAAGCTCANGCAAGTGGCTCAGTAGTTG GCCAGCCCAGCAGGGTCCTCTGTATGAGTGTGCACCCAGCTGAAGAAGAAATGGAGAG CAGCAATTGGAGCTTNAGGACCGGCTTGCACTGTGGCTCCAGGTTATACCACCACTGCCC AAAGCAAAAGCTAGAGAAGCAAGTGGAGAAATGCTGGGAGAAAGCTG

Sequence 82

TGGCGGCCGAGGTACGCGGGGGAGTCAGTCTCAGTCAGGACACAGCATGGG Sequence 83

CGAGGACCTTGTTGCAGCTCTTTATTTCTTAAGTCCCCTCCCCGAGGTAACACATTT

GCTTTTTTAGCTGTTTCCTCTAGTGTAGGTTCACCTNGCTAATTTTTGATTCAATCACT

AACCACCGTTACATACTACAAAATATCACTATATTATGACCATGATTATATTTTNTTTTC
TTTTTCCCTTCATCAAGGAAGTTCATCAAAGAATTTCATCAAAGTTCAATGATGACCTC

TTTTAAAATTTTCTTAGTATTCTATGTAACTATCACCGATCTTTTCCCCACACACTTCAA GAGGCTTTTTTAAANATAATNTTTTACATAGGCCNTTGAGGCACANGATTAACCAAATCC CTNTTTT

Sequence 84

GTGGCGCCGANGNACTNNGGCCTATNTGNGANANAAGGTATTNACCNNGNNCACAACAA ANGCATNNTCCATATTNNAACNGCTCATCATATGGNGNNAANATNNNGACAGANGGTGCA ANCACNNTNCACTNGATATACNCCTTGGTNCCTCCGGCCGCTCTAGAANCTNANTGGGAT CCCCCCGGGGCCTGCAAGGGAAANTTTTCGAATAATCAAAAGCCTTTATTCGGAATAAC CCCGNTGCNGACCCCTTNCGAAGTGGGGGGGGGGCNCCCCGGGTAAACCCCCCAAGACCT NTTTATGGTTTTCNCCCTTTTTTAAAGATTGNAAGNGGGGTTNTAAAATNTAGGCCNG CC

CGCCTTTTGGGNCNGNTTAAAATTNCAATNNGNGTTACAATTAAAGNCCTTGGGTTTT

Sequence 85
CCGCGGTGGCGGCCGAGGTACTTATATTACATTATGCTCAAATGCAAACACTTATGCTAA
ATGTTATATTTGGGAACAAATTGTGTAAATATACTGATGACGTCAATGGATCATTACAA

Sequence 86

AGCTTTTACCAGGGCCAGGGCCAGGCCTCCCCCATGCAGAAGATCTTCATTGGCTGCATT CACCACAGCATCAACAGCATGTGTGGTGAGGTCATCTTTCCACACTGATAACTCTATCCT AGGAGTCAGCATTTTTCTGAACACTTGCAGAGATTTGCTGTTGCCTTCCTGAACTGGAGA GACCAGGGTAGAGATACAGCCAAACTTATTCTGGAGGACTTCACACAGCTGACGCTCATT ATTTTTTAAAATTTTAGAAGTCATTGGTGGTTAATGG

Sequence 87

CGGTGGCGGCCGAGGTACTCTTCAAAATTGTCAAGGTCATGAAAGACAGCAAAAAGTGAA

Sequence 88

GCCCANAAAACCGTAAAAAAGGCCGCCGTTGCTTGGCGTTTTTTCCATTAGGGCTCCGCC CCCCTTGACCGAGCCATCACCAAAAAAATTCGACGCTCAAGGTCAAGAAGGGTTGGGCGG AAAACCCCCGACCAGGGAACNTATTAANAGAATACCCAAGGGCCGTTTTTCCCCCCCTGG GAAAGGCTTCCCCTCCGTGGCGCCTCTTCCTTGTTTTCCCCGAACCCCNTGGCCGCCTTT NACCCGGGNATTAACCCTTGTTCCCGCCCCTTTTTTCTTCCCCCNTTNCCGGGGGGA

Sequence 89

CGGGCAGGTAECGCTEAGCCTGCTTGGTTGCATCCTCCGCATGGCGAGTCAGCTCTGAGA
TCTGAAGGTCAGCATGCTTACGCTCGGCCTCACATGTGTCAAAGTGATTCTGGATCTCCT
TAAGTCGATCCAACATCTGCAGNTGCTGGTTTTCCCCCATTCTCCAGTTCACGTGTTAA
AT

TCTCTACTTGTGATGCCAAATGTGCTTTCTNCTTGTCTTTTCCATGCACCGTTTN

CTTCCTTTAACT

Sequence 90

AAAGTGCCTCCCAGTAGGAAGAACAGTCACAAGGCACTGTTATATCAATTCAGTGTGACA
CAAGCCCTGATTATTTAATAGTATAACAGCAGTGAATCAGAGTTCTTTCATCTGACTTT

CTGACATTNCCAGCAGCTGNATATTTAATTCACAGTTAGGGGCTGGACAAACTACAGCCN TTGATCAGAATGGAAGCAGGCATCCTTGAGCTTCTTCTAGGAACAAATACAGATGTGCAC AAAATTTTCATTTATTCAGT

Sequence 91

GATTGGAGCTCCCCGCGGTGGCGGCCGAGGTACGCGGGATCACAAAGCAGACAAACAGGA AAGACTGAACCATCTATTTGAAAAAAGTGACTTCATTCAATTGGTTCAGCCACCCGTATC TGTAATCTCTCCATTCTGCCCTCTTGATTTTAATGCAGCTATAAAGGAGAGTATTTTAA

AGTGCCTCCCAGTAGGAAGAACAGTCACAAGGCACTGTTATATCAATTCAGTGTGACACAAGCCCTGATTATTTAATAGTATAACAGCAGTGAATCAGAGTTCTTTCATCTGACTTTGC

GACATTTCCAGCAGCTGTATATTTAATTCACAGTTAGGGGCTGAACAAACTACAGCCATT
GATCAGAATGTAAGCAGGCATCCTTGAGCTTCTTCTAGGAACAAATACAGATGTG

CCCCANGAGGNCACCAAGCATCCCANCACCCTTNNTCCGGGNGGTGNAAANCCCANGGCC GCCAGGCAANGGCACANCAAAANCCGGGCTGCGNCNNGAGCACNGGGCANCCCGAGAAAA CAAGGNCNCAACNACNGACNGGCNAAGAAGGGGCCNGCCCCNGGCCAACNNCACCANACA GNNNAGAGCAATCTTTTTTNGGGGGNGGAGCACCGGGACCACCCCNGACAACAAAGGA CCCCGGCCGGGGGN

Sequence 93

CCCGCGGNGGCGGANATTGGGGGNGAAACCTNANANCANGGAANCTTTGCTTTNNGNCCA GATTANATTGGGGGGNCTTAAANCCCCAGCGGCNNNNGACAGNTAATACACCTCACGTTT TTNGNAACTGGGGGGGGCAGNACCN

Sequence 94

TTTCCCGGGCAGGNACAGCTCCATGAGGTCACCAAGCATCCCATCACCCNTTNCCGGCAG
TTGCATGGCAATGGCACGCCAAGCAATGGCACATCAAAATCCGGGCAGCGTCTTGAGCACT
GTGCAATTGAGTCAACAAGGTCTCAACTACTGACTGGCTAAGATGGGGCCTGCCCTTGGC
CAACTTCACCATACAGTTTAGAGCAATCTTTAAAGTGGNCTGAGCACCTGGACTATCATC
TTGACTACAAAGTACCT

Sequence 95

Sequence 96

AGAAATGTCGCCAAACTGCCGTCTTCCCTCCTCGGCCGCTGCGACAAACACCCCACAAAA TGGCGGCAGCGCCGTCGCCCTAGAATCCCCCGAGTCGCCTCTCCCCGCGTACCT Sequence 97

AGCTCCCGCGGTGGCGGCCGAGGTACCTTCCCCTGAGGAGCCCCCTTCAGAGGGGCGAA GAGCAGTATCTTCAGAGGCCATCCAAGTTTTAGCATAACAAGGAGGGAAAGAAGAGAATGCAG AGAAGAGGCTGGTGATAGACAAGTTTCATGTTCACAACTTGAATTGCAGAGGTCAAGAGT TTAAAGAGTTTGGGATGGAAAGAAATCGAGAATTGGGCT

Sequence 98

GCTCCCGCGGTGGCGGCCGAGGTACCAGCAGAGATGGCTTCAAGATGATTTAGGACTTG GGTCAGTAGCACTTACTGATGTAGTGGTTTGATACACACTGATTACCTTCTTCCTTTTT

TACTCCTGGCCTTTCCTTGGGAGAGTTCATAATTCACCTACTCCATCTAGATATTTGTG

TGTCCAAACACATCTCCACGTTAGGCTTCTATTTGTAGCATCAGACCCACACTTTCAA

GTCCACTAGATAGCCTCACTTGGATGCTCTGCAGGCCTAAATAACCTTTGCGGACAGATT AACAGGGAAAAAATATTAATAGGAAAAAATATAGATTTTTATCTGATGGTAAT

Sequence 99

TGCGTTGCGCTCACTTGCCCGCTTTCCAGTCGGGGAAACCTNGTCGTGGCCCAGCCTGCA TTANATTGAAATCGGCCAAACCGCCGCCGGNGGAAGAGGGCCGGTTTTGCGGTAATTGGG GCGCCTCTTTCCGCTTCCTTCGCTTCACTGGACTCCGCCTTGCGGCTTCGGGTNCNGTT TCCGGNCTTGGCCNGGCCGAAGGCCGGGTTANTTCAGGCCTCCACNTCAAAAAGGGCGGG GTAAATNAACCGGGTTAATCCCACCANGAAATTCAGGGGGGGAATNAACCGCCAGGGAAA AANGAACCATTGTTTGAAGCCAAAAAAGNCCCANCCAAAAA

Sequence 100

TTCAAGAATATTTTCAGGTAAATTAAGAATTAATTTCTTCTAAGACTATCCAATGNGTCTCAATCTATTCCATAATAATCAATGATAAAGATTCACATGTATCACCAAATTCGAGGC

GCTTAGTTGAAAAATTTGAAACAGCTTACTGAATTCCATTTGCTGATTCTGNGGGGGGCT TCCCCAATGGCATGNGTGCTCCTTTGGATGCCTGCAGGGGTGGTCACTGCAAAGTCGTCA TNTGTGCCACTGGGAGTTGGGGAGGCGGCCTGCTGGGGTTCCCTGGGT

Sequence 101

GGCCGAGCCCAATTCTTGATTTCTTTCCATCCCAAACTCTTTAAACTCTTGACCTNTGC

ATTCANGTTGTGAACATGAAACTTGTCTATCACCAGCCTCTTCTCTGCATTCTCTTTCC

TCCTTGNGTACTGCTAAAACTTGNATGGNCTNTGAAGATACTGCTCTTNACNCCTCTGAA GGGGGCTTCCTNAGGGGAAGGTACCTCGGCNCGCTCTAGAACTAGTGGAATCCCCCGNGC TGCAGGAAAT

Sequence 102

Sequence 103

ATTGAGCTCCCGCGGTGGCGGCCGAGGTACTCCTTTCTTGTTTAAACGCCTCACCACTG
ACCACGGAACGTCTTGATAGAGCCATCTAGTAATTCTTAAGTCCTACCTCATCCAACCTT
GTTTTGACTCCTGCAGTGAGCACAGCTGCCCTCACCCTCCCCTCTCTATGCCCTCACCTT
TGCAGGAGACTCTCAATTTCTCAGTCCACATCAGCTCTNAGACCACCAAANGCAAGGGTT
N

Sequence 104

GGAGAAAATGCTGAAACTAGTGGCCACAGATGTCTTTAATTCCAAAAACC

Sequence 105

AGCTNCCGCGGTGGCGCCCCGGGCAGGTACTTTCTAGGTATATCATGTGCCCTAATG
TGCTCCTAATATCATAAATGTTTACTTTCCGAAAAGTATTTCTGAAAGGGAGCATATTT

GGAAAGTGCATAGGCTTGTAATCATACTTGTTTTCAAGTTTCAACTTTGCTATTCAACT

GAATAATCTTGTGCAAAACCTGAGCTGATTTTCTCATCTATAAAATGGAAACAATACTT

CTGTGATAATGGGTGCAAAACACAAGGTATACTGGTTTCTTTGCTCTGGATTCAAGTT

CTTCTTAGTTTCAAAATTTTAAAGGGAAACCAAAAATGTTTCATGGNCCNNNCTNGCNGG NANGGGANTTTTCCCNCNAAAAAAAAAAAAATCAACGGGGGGGGTTTTTNCCNNTGGGGANN CCCAAAAAGCCGNNTNTNGGCCANGTTTTTNNGNNNCTTTTTGTNAGGGGNTTTNGGGCC NCCCTGCTTTACCCCNTTTTTTANATAACNNCCCCCCCTTTTGGNNTNGGGGNGGGNNT TATATATNTTTNTGGGGGGGG

Sequence 106

GTAGTGGGCAGCGATNAGGGCTGGGGCTCTTTCCTGAGTTGTCAAGGTGAGAGATTGT GAAGAACTTGGCTTGCAGGGGTTTGGGCATCAGCTGCCCATTGAGGGGCCGTTCATTGTCT T

Table 1

CAAAGTGAATGTGGGGTGGTTTGATCTGCATGTGTCATTTGTATCCACACAAGTTAATTA
TTCTGCTTTTGTTGTAGTACCTTGGTTGTGAAGCAGAAGCTACCAGGCGTNTATGTGCAA
GCCATCTTATCGCTCTGCATTAAGTAAGATGAGGATTCACTCTTAATTTATGGGCACAT

TTAGTTCCTTCCACACAAATTTAAGGCCTTAACTCTTNATTTTTTCCTACANTGGNGGG

TTTGGAAGTAATATTCATACGGGCATGGGACCT

Sequence 107

CAGAGAAAGCTTGCCAACGGTGATAAGTAGGTTTGTCTAGCAGCACTGATGCGTCGTGGA
AGTTGATGGTCATGAACATACAGTGTGATAACCTATCTGCCCTCTTGACCTTTTCTAGT

GTGCTATGTCATTTTGGTACTAAGGTAGGTGAATTTTCCAAGTGTTCTTGGAAATAAG

AACATCAAGAATAATGTAAAAGCCTCATATACAATAATGAATAATAAAGAATAATGTGAA GGCTTCATTCAAGGTTGGGGTTTGCCAGATACATTGCAACAAAATGACAGAGCAGCCAAG GTATTTAGGGATAGTGGCCAAAGTATTGTAATGATGGCTTATGGGAGTGTCAAGCTGGAT AAAAGAGTGAAAAATGGAAATAAAAAACTAATGGGATTGGTTCNANTCCGAAATAGGCAG CNCNGCCCCAATGGCNCCCATNGCCCCGGTTTNAAATTAGGGGG

Sequence 108

NCCGGAATGGAATTCTACATCAAGTGTCTGTGCCTCGCTGCTGAAGGATAACCCAGAGTG CAAGGTCATCTTTGTTGCTGAACAGGGCTGGACCTGTCGCACTTAAGCACACTTAAAGGA TTCTATTCTTCATTCAGGTCCCCCAGAGAAATTGGCTCCTTATTTTTCTTTACCTATTC C

TAGACTTCCTTTTGTCTAGAGCCAGTTTTGCAAAGGGCACTTTTATCCATCTCAGTTAT

Sequence 109

TGTTTGTTTTAAATAAAGAGATTCAGCCAGTAATAATGGGAAGAGCTGCAAATGACTTCC CCAG

Sequence 110

GTGCTGCCTGCACTGTGACTAAGACTTTCTGGACTATCATCATGTTTAGGAGTTGATGAG ATTATAGTTTCATGTAAGTGTATCATTAGATGACAACTCTACATCTTTAGGCATGGAAA

AAAAATTTTTCCTGGAAGAAAAAAAAGTGAACATCCAACCTCCATTTAAACAAATTNGAT TGTTTCTTTGCTATTAAGAAACTCGGTGCTCTTTCTCCCACTCTATTATATTGTCAAAAT ACATCTGGAGACACTTTATAAACTTTTTCTCCTTTAAATTACCTGGTTTATATATTATCT CCTGTAGCCTGCATAAACGATAAAGGGTTAAACATA

Sequence 111

GCNCGCGGGATTGGCCGACGCAGCCATGGTAGGTCCAGATCCCGTAGAAGGGAGCGGGGT CCCATAGGTTACGGCCGATTCCTGGAGCTTCTGGACTGAGGGCCGCGGTAAGCAGTGGTC TGGGCTCCCGC

Sequence 112

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Table 1

CGTGGCCGAGCGGTTTGCATCGCCGCTCGCGCAAGGCCATGAGGTTGGTCTGGGTGAAGA
ACGCATCGATGGCGCACGGGCCTGTTCCGGCACGTAGACCTTGCCGTCACGCAGACGCT
CCAGCAATTCGCGCGATGGCAGGTCGATCAGCAGCAGCTCATCGGCTTCCTGCAAGACCC
AGTCAGGCAAGGTCTCGCGCACTTGCACGCCGGTGATGCCGCGCACCTGGTCGTTGAGGC
TTTCCAGATGCTGGACGTTGACTGTGGTGAATACGTTGATGCCGGCAGAGAGCAATTCCT
GAATGTNTTGCCAGCGCTTTTCGTGGCGGATTGCCGGGGGGCGTTGCTGTGGGCCAGTTCG
TTCACCAGCACCAGTTTTGGGCTTG

Sequence 113

GCGGCCAGCCAGACTGGACCCCTTAGCCTCGAGGCCTTTGCTGAAGCTCATGTGAGGGGG CGACTGCCCCTGACATGGTGTTGGATTCCAGCTGCTGTGGCCCTGAAGGTGGTGGTGGG AAGAACGGGAGAATGAAGCCAGCCTTGGGAGAGGTAGGACGCCAGCCGGCCCAGCTGCT TCCAGCATCTGGATCCAGCCTCACCTGAAGCCAGCCACCTNCTGGACTGCAAAGTCATTT GTNAACACCGAAACACAGGGTTTCTGACCATTGCAACCCAGGGTCCCGGCGTGTCGTGGC T

Sequence 114

TTGAGCTCCCGCGGTGGCGGCCGAGGTACGCGGGAAGCAACTGTCAGCTAGTGAGATTA CTGTGTATGGCCAATCCAGATAAATAAGACGATCAAGTCTTTATGAAAAGGAAAAAA TTTGGAATGCACATCTCTGTCCAGCTCAATTCCTCACTCCTTTTTTAAGATGGAGAGCT G

TTAGGTTTGTCTACACAGTAGGAAACACCTGATTAAATAACAGCATGGAGCCAATCTTGA CAAAGAAATTGGCTGCATCCAATAGAATCCCAGGGCCGGTCGTGGTGGCTCATGCCTGTA ATCCCAACACTTTG

Sequence 115

GGCCGGAATCGTTGCACCAGACNAGGCCCCCAGGGCCCAGCTACTCGAAGAACAAGCCAA TGGATTGGAACGTCCTAGGACAGATGCCACGGCTTTGACCCAGGCTGGGGTGCACGGAT CTCACTGGGGTTAGTTGGTCGGAGGGGGAAGCCCCATGGGTCCACCAGGATGAGGTGTTT AACTCTATCAGGGTACCT

Sequence 116

GGGGCTCGTCGGTGGCGGCCAGCGAATTGGTGACGACGCTGATCTTCACGTTGCGCCCGC GGATCTCGCGCATCACCTCCAGCCCCGTGGCACCCGGAATCAGGTAGGGCGAGACGATGG TCACTTCGGAACGCGCGCGCGCGCATCTGCTCGACCACGTTGTAGCGCACGCTGTCGACAT CCAGCAGCGGCACGCCGCGTACGACGCGGTCTTGCCCGATCACGCGGTCAGGCGAATCG GCATACGCCTCGGCGGTGGTCCAGATCAGGCCGAGCTTCCGGCGTTTGAAGGTCTTCGA CCATCGGGCTGTAGCCGAGCAGGGTTCGTTTGGGGCGCCGGGCTTCGGCGGGGCCCGGGC GTTTGGTGTCGGGGGCCCGGTGGCCCGGCGT

Sequence 117

GATGATGAGCTCCCGCGGTGGCGGCCGAGGTACTCTAATGGAGCCCTCAGGACTGTCTT
AAAAAGACAAAAATACCTCCTACAGTTGTTATCATCAACGTCAGTTGCTGGCTTTTCCT

AATTTGTCTTCTACCTCAGATCTAAACCATTTGATAACATTAGGGCAATATCATGGCAA

CGTGGCCCAGTAAAACCATAGCAAATGTTTTCTCCCTAGGACACTATCTGTTTTCACAGG AAAATTTTTCTCATAGAAAAACTGTAGGAAAAGCCATGGGATGAGCTGAGAAGACCAAAC CTATCTCTTGGAAAACAACAGTAGGGAGCGTNGGATTAGGAATGTCCTTGGTGCGTGAAA CAGGCAGACCAATCCTGAAACATCTTTCTCTGGGGACCGTAAGGCATGGAAAAATTTTCT ATTACACTTANGGAGGGCTTCTAGGGAAACAGGAAACCGACCAAAAATGGGAATGGGGCC TTAATTCATTTTTTT

Sequence 118

CTCCCGCGGTGGCGGCCGAGGTACGCGGGGAACCGAGGCAGCAGCGGACGTGAGCGATAA

21

Table 1

TGGCGGATATGGAGGATCTCTTCGGGAGCGACGCCGACAGCGAAGCTGAGCGTAAAGATT CTGATTCTGGATCTGACTCAGATTCTGATCAAGAGAATGCTGCCTCTGGCAGTAATGCCT CTGGAAGTGAAAGTGATCAGGATGAAAGAGGTGATTCAGGACAACCAAGTAATAAGGAAC TGTTTGGAGATGACAGTGAGGACGAGGGAGCTTCACATCATAGTGGTAGTGATAATCACT CTGAAAGATCAGACAATAGATCAGAAGCTTTGGAGCGTTCTGACCATGAGGGACAATGAC CCCTCAAGATGTTAGATCAGCACAGGTGGGATCAGAAAGCCCCTAATG

Sequence 119

GGTGGCGGCCGAGGTACCTGAACACCAGGCTCTTTACGGTCCCCTGGCCAGTGAAAGGGT CTAATATAAAACACCCGAGGCTGAAATAGCCCGCTGCTTGTGAGACCTTCCTCAAGCTC AATGACTACCTGCAGATAGAAACCATCCAGGCTTTGGAAGAACTTGCTGCAAAGAGAAGG CTAATGAGNTGCTGTGCCATTGTGTATGTCTGCAGATTTCCCCAGGGTTGGGATGGGTTC ATCCTACAACGGACAAGATGAAGTGGACATTAAGAGCAGAGCAGCATACAACGTAACTTT GCTGAATTTCATGGATCCTCAGAAAATGCCATACCTGAAAGAGGAACCTTATTTTGGCAT GGGGA

Sequence 120

GTGGCGGCCGAGGTACCCGAGCTACCAGGCTGTGGAATGAGACCGTGGAGCTTTTTCGTG CTAAGATGCCCGTTACGGAAAGATCGCTGTCGTTTCAAGAGCTATGGCCATTGTTTCACA Sequence 121

GCTCCCCGCGGTGCCGGCCGAGGTACAAGTTTATGTTTTCCTTGGTGTAAGGCTTTAACA GTTCCCACCTTTCAGCTGCCTGGGCATTGATTGCTCACCTACCACTATGACTAGATATGA TTCCATGTGCTTTTGACTAGATTCTTTGTCTCTTGTGTATGGAAAGTGAGACTTTAAGT

ATAGTTACTGCTGAGAGAAATAGAAGACGTGACAACGTTTGCTTTCCCATTCAGTAGTCAGCGTTGAATGGAATTATCTTCGTTTTTTGGACTGACAGATTTGTTTTACAATTCAGCTA

TCCCAAGCCTTACTATTCAAAGCAGAACCCTTCTGTCTTCTTCTGTAGTTGCTCTCTC

TTTTCCCAAATCATAAAGGTTTTGGG

Sequence 122

CCCGCGGTGGCGGCCCGAGGTACACACTGGGATCTCCTTCACTCATTTTTTAACCCTGAC TGGGACACCAGAGACATGCTGCATCTTGTATTAGGTGTTTCATCTTGCAGAATGGCTGTG CTCCTGAAATATTTCCTGTGAAGAAAATTGTTACAATCCCATTACATCACTGGCTTTTA

TATTAAATTGGAATGTTGGCTGGAAACAATTTTAACCC

Sequence 123

GCGGTGCCGCCCCGGCAGGTACGCGGGTGTGCAACTGCAAACCAGTAACCTGCTAT GGCCAATTGTGAAGAGATGGGAGTCTCCCCGTATTGCCCAGGCCGGTCTCAAACTCCTGG GCTCAAGCAATCTTCCCGCCCCACTTCCCGAAGCCCTAGGATTACGGGAGTGAGCCACCG CACCCAGCCAGAAAAACGTTTCAAATATTGGAAAACCTTACTTTTTTCAATGAGCATTT

Т

Sequence 124

GCTCACCGCGTGGCGGCCCGAGAAATGTCGCCAAACTGCCGTCTTCCCTCCTCGGCCGC TGCGACAAACACCCCACAAAATGGCGGCAGCGCCGTCGCCCTAGAATCCCCCGAGTCGCC TCTCCCCGCGTACCT

Sequence 125

ATTCAACAAATATTTATGCATCAGCTACATGCCAGGATCTGTAATAGATTCTGGGTGTGC
AGTAGTGATTACTGCAGAATGCAGACATGGTCCCTGCATTCTTGAGAGGGAGACAGCAAC
CAAATAAACAATTACAAAAAAGTATGTAACTAATTAACAAGTGGGAGAAGGGAGTGGGAT
TACACAGCAGAAGTGGAAGGAAGGGCCCACTTAGAGTGGTCAAAGGCTTCTTGAAGGTAA
CATGTAAGCTGAGACCTGAAGAAGGATGCAAAAAGGGCCAGCATGTAAGGAACAGAAATA
AACATCCCAGAAATAGAAAATAACACACAAAAACCTAAAGTCATTAAAGAACATGATCAT
CTTTCAAGAACTAACCCTTGAGATCAGAGTAGTTTGATTATAGAGGAAAAAGGGTGAGTGC
AATGGAAACGTTAAAAAATAGCCCAGATCACGTAGAGCTCTTTAGCCTTTTGGTAGAAAAAA
Sequence 126

Sequence 127

GTGAAAAACAAGAAAGCTGAGAGAAATCAACATGTTCCCAAGTGCTGTATGTGAACAAT
AAATCTGAGACATACCTCTAAGGCTTTTCCAGAGACAAGAAGCTCTCAACCTGTAAAGAA
TTCCTGGGACATGACTGAGAGCAATGAGAACCTCCAGTGNCAGAAGGTTAGCAGATATAGT
GTAGAGCACTGAGATTATCTATGTTCATAACACTGGTGGCTTAGCTGTAAATCACAA
AATAGCACTGGAATTATCTAGTGATCATAGCACATAGTCCAAGAAGAAAAAATTTTGATC
TTGTCTTAAACTTTGTGGAGCCAGTGGTGAAATGAGTCACACAAAGATGCAACAATGATT
GAACCCAGNCCTCTTTAGACTAACATATTCTTGGCCATCACCNCCAATATTACAATAAAA
ATCAAGACCCATGAAGGAGCATACCTTTTTCTGNAAGNAAATATTGNTTACCTCAGCTCT
ATTGGTATTTGATGCAAAACACCCACATGCAATTTGGATCAATAAGACATGGGAAGGGGC
CAAAATGNNACTTCATGCTTAAGGAAAAAAAAAGGAGNGGGAAGGAGGNCACCAAAGCNGG
TNCNGNAATGGGTNAACTTGGGGCATTATANGGGGGNGCTTTAAAATACCATTTT
Sequence 128

GCGATTGGAGCTCCCCGCGGTGGCGGCCGCTGTGAAACAATGCTCATAGCTCTTGAAACG ACAGCGATGTTTCCGTAACGGCATCTTAGCACGAAAAAGCTCCACGGTCTCATTCCACAG CCTGGTAGCTCGGTACCT

Sequence 129

GGCCCAGGGCTCCAGCTATGAGCTTCCATAACACCCCTAGTTTTCCTCACATTGCCCTCA
TAGTATATGGAATTTGTTCATTCAATTGCCTGGCTTCCAACAGATGCCAGCTCCAAGAAG
GCAGGAGCTGCTTCTGGGTATTGCTTGCCATCAAGGCCCTCACACCCAACCTAATGCCTG
GGCCAGAGGTAGGTGCTTAATAAAAAATTGTTTGAGGCCGGGGCGTGGTGGCTCACGGCT
ATAATCCCAGCACT

Т

Sequence 130

GCCCAAGGGGGGCCAACCCACATTATTTGNNTGGGGCNNNCTGCCCNTTTTTNAAANNA

CNTTCGCTTGNGCTTNGGNNGGTTTCGGGCTGCGGCGAAGCCGGTATTCAANCTCACTCA AAGGGCGGNTAATACCN

Sequence 131

CCGCGGTGGCGGCCCCGGGCAGGTACCTATCTGCAGAACGGTCATTAGCAGTTTTTCC
AAACAAGCGACTTTTAGCAAATTAACCGTTAATTTTAATGAGATTCAAAAGTTAATAGC
C

ATTCTTAACGTTTTATAATTAGAAGCTGTTATATAATTAGAGCTGGACACCCACATGGA

AAACTAATTTGACTGTGCTGCATTTGACTTCACTTTGGTAACAGGAAGCACTTTTTAGT C

TGTAGACCCTTGGGAGTTGTAGGGAGTTAAAGCTGATCATTATATACTATTATATACTT

Sequence 132

CGGTGGCGGCCGAGGTACGATAATTCATGCCAATTTCTTTGGGAATACTTGTTTCTGATA
TAATAGGTTACAAAGCAAAATTGAGATGATTTTTAAAATGCCATGCAGTTATTTTTCT
G

AATAACATAAATTTTAAACAGAGACCTGAAAAAAACCCCCAAAAGTATTAACCTTTAAATA CATAAACTCAATAGAAATAATTTAACTGCCTTCTCTTCACAAGAGGCAATCAGAAGGCAG GACTATAGTTTTCTGTGTTTCTTTTCCACAGGAGAGATAATTACATTTCTAGAGACCCA T

AGAAACAATTCCATAGTTTTAATTTC

Sequence 134

TNGACTCCCGCGGTGGCGCCCCAAGTGTTGGGATTACAGGCATGAGCCACCACGACCG GCCCTGGGATTCTATTGGATGCAGCCAATTTCTTTGTCAAGATTGGCTCCATGCTGTT AT

TTGATCGTCTTATTTATCTGGATTGGCCATACACAGTAATCTCACTAGCTGACAGTTGC

TCCCGCGTACCT

Sequence 135

TTGAGCTCCCGCGGTGGCGGCCGAGGTACCTCTCCTGCAGGGCCCTCCATTCAGGGTCT
TCCTGGAAAACCCCCTGGAGGAAGCGCTCCTGTTGCAGTCGGAGTGAACACCCGTCTTGT
TTAACCACCAGCAGGGGGATTCCTTTCTGGAGAGTCCATGTAGTCATCATCTCTTTGACC
TCTGCATTTTCCCCCAGAAAGGCGAGCATGTTACTTGTCATCTTGGGATCCGAATGACAA

PCT/US00/33312

Table 1

ACTCCACCAGATGTAAAATCACTTTCTAAACAACTATTTGACAGACTGCTCCACAAGTCA TCATTCTTAGCATTTCTATAGCTGAACTTCTTTAAGTACCTGCC CG Sequence 136 AGCTNCCGCGGTGGCGGCCGAGGTACTTAAAAGTATATCANGGGCAGTTTCATGCCACGG GAGCCAGGGAAGGCACCCAAGGAAGTGATGGAAGATTCACCAGGTGCAGCTCA GGAAAGGCTCAGCAAATTTCTCTGTAACAGGATGCAGACCCCGCGTCCTGCCCG Sequence 137 GCCGAGGTACTAAATTTAGCAACTTTATTCATGAGGAACACCAGTCCAATGGTGGTGCTC TTGTCCTTCATGCTTACATGGATGAACTCTCATTTTTGTCTCCAATGGAGATGGAGAG AT TTTCTGAGGAGTTTCTTGCTTTGACATTCAGTGAAAATGAGAAAAATGCTGCTTACTAT G CTTTAGCAATAGTGCATGGAGCGGCTGCTTATCTCCCAGACTTCTTGGACTACTTTGC П ACCCCCATTTTAAATTTTTTNACCTCAGGGGAANNAGGGACNATCCTGGNTNGGGGNCC CNCACCGGNGGGGGNTCCNTTTTGGGGGGGAAAAAAAATNTTTNTTGTGGNNCNNAANAAA C CCNCTTTTTTNAAAAAATTTT Sequence 138 TNCCGCGGTGGCGGCCGAGGTACTCGGGAGGCTGAGACAGGACAATTGCTTGAACCTAGG AGGTAGAGGTTGCAGTAAGCCAAGATCGTGCTACTACACTCCAGCCTGGGTGACAGAGTA AGACTCCATCTCAAAAAAAAAAAAAAAAAAAAAATTGACTTTGGAACCTCAGATTACATATCAG TTTGCATACATGCTAAACAGAGAAATGTCCTCAAAATTCAGTTACTAAAAATTACTGAT TCTCCATGATTAGAACCACACTGTGGTTGTGTGTGTGTAGTCAAAGGAGGAGAATTTTTAAT TATTAGAGGAAGAATTTTTTTTCCTTGTAATTTCCAGGTGTTTATATTAGTTGGGCCAT GTGAAAATTACATGGAGGAAAGAAAATAGGGAAAATAAGTCACAGAAAAAAGAAAA Sequence 139 TTAAACTCTTGACCTCTGCAATTCAAGTTGTGAACATGAAACTTGTCTATCACCAGCCT TTCTCTGCATTCTCTTCCCTCCTTGTTATGCTAAAACTTGGATGGCCTCTGAAGATAC Т GCTCTTCACCCCTCTGAAGGGGGCTCCTCANGGGAAGGTACC Sequence 140 TCCCGCGGTGGCGGCCGCTGTGAAACAATGCTCATAGCTCTTGAAACGACAGCGATGTT TCCGTAACGGCATCTTAGCACGAAAAAGCTCCACGGTCTCATTCCACAGCCTGGTAGCTC **GGTACC** T Sequence 141 TNCCGCGGTGGCGGCCGAGCCCATTCTTGATTTCTTTCNTCCCAAACTCTTTAAACTC GACCTCTGCAATTCAAGTTGTGAACATGAAACTTGTCTATCACCAGCCCCTTCTCTGCAT TCTCTTTCCCCCCTTGTTATGCTAAAACTTGGATGGCCTCTGAAGATACTGCTCTTCA CC

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Table 1

CCTCTGAAGGGGGCTCCTCAGGGGAAGGTACCT

Sequence 142

NGGTTGCGCTCACTGCCCGNTTTTTCCAAGTCAGGGAAAACCTTNGCNGGCCCNNTTTNG CCNNTTTTTCCCTTTTCCNNNAAAAAAAAAAAAACNCNNGGCCCCCNGGNNTTTTTGGGG GGGNGGGGGGG

Sequence 143

NNGACCTAACCTNACATTTAAATNGCGGTGGCGGCTTAACTGGCCCGCTTTTCCAAGTCC GGGAAAAACCCTNTTCCNNGCCCAANCTTTGTANTAAANGAAATCCGGCCCAACCNCNCC GGGGNGAAGGGNGGGTTTTTNGCNATTATTGGGGCNCTTTTTCCCGTTTNTTTGNTTNNN

Sequence 144

GAGCTCCCGCGGTGGCGGCCGTTGCCCTTACATCTCTCATTTGGAACGTGACACGGTAT TAAATAACGGCATATGAAAGCTTAAAAGTCATCAAATACAATCACTGGGTACTTTCGATT ACCCAAACCAGGCACTTTCCTAAACTCCCCACTTCTTTACTTCTGCGGTCTCCTTTCTT

TATTCCCCCGCGTACCTGCCC

G

Sequence 145

ACTCCCGCGGTGGCGGCCGAGGTACCGAGCTCCNGGCTGTGGAATGAGACCGTGGAGCT TTTTCGTGCTAAGATGCCGTTACGGAAACATCGCTGTCGTTTCAAGAGCTATGAGCATTG TTTCACA

Sequence 146

CTCCCGCGGTGGCGCCGTTATGCTTAGCCNGTTTATTCTTTATTTTTTACTGGAG

ATTGCCAGTGATGGAAACGGTGTTTGCTTCTCTTTCAGTCAAGATCTGCACAAAGTATAG CATTAGGTGGTATTTATTGTTTATATTATGAGTTCTACATTCATCTTTCCAGCACTCTGA AGTTATCAGCAAGTTCTCAGTCAGTCAAGGCATTGGATTCTGCTTGATTTCTTTTTAA

TCATTGTTTTTGACCCCTTTGAGAGTTTTAATAGAGAGGAGTCTGGAAGGCAGAGATCTC CACCACCTAACCGTGAGAAATTTGGAACTAAGGACTTGCACTGGTCCCCAAGTTAACAGG GGATATACTTCCTGCATTTTCTCTGNTCTTTCTTGCC

Sequence 147

TGAGCTCCCCGCGGTGGCGGCCGCCCGGGCAGGTACCCAAGGTGGGCATTTTTTTAAAAA ACCCATGGAAATAAATGCTACTTCTTGTTAGTGTTTTGAAAAATAAACAAAGAAAATGC AAACAAAACAAAACCATGGTCCATTCAAGCTCAAGAGTATTTAACCAATGCTCTGTTGC CTCTTAAAGGATTGGTAGCTATTTCCCCATCTACAAATACATGACAATTAACTAAGCCCA ATTCTTTAAAACTATCTGGAATTAGGTCAAAATTATCTAATTTTTTTCTGATTTAATTAT GGATTACCGTAATCCAATAGTTGGCAACATTATAAAACCCTAACTTTACCTCATTGGTT

GGCTATACCAAGGTCTCATGGACTCTTGGACATAACCACCATTCTTTCCTNCCAACACCC CGGNGTACTTCAGAGTAAAACCCGGGAGCCTTCATGATAACCATGAAGGCCCGGAAGCTT CTGGCTTCCAAGGCTTTCTNTNGGCCTNACCTTCCGGTGGTTCCTTTTCT

Sequence 148

GGGTGGCGGCCGAGGTACCTNTGTGCGCGGTGGNCGAAAAAGCACCTGGGTCGGGTGCAG ACTGCGGAGCNGGGCCCTACCGTGTGCGCAGAAAGAGGGGGCGCTGGACTTATCCTACCT TAAGTTGAAGCAGACCAGCAATTGTTGTGACCTACAATCTCCACACCCATCTTTACTCTG AGCCAAGGAAGTGTCTTGTTGTGCTGAGTTTNAGGGGCCTTCAGCTNGNGGGAAATCC **CNAAGA**

Sequence 149

PCT/US00/33312

Table 1

AGCTCCCCGCGGTGGCCGCCGAGGTACCTTCCCCTGAGGAGCCCCCTTCAGAGGGGTGAA GAGCAGTATCTTCAGAGGCCATCCAAGTTTTAGCATAACAAGGAGGGAAAGAAGAATGCAG AGAAGAGGCTGGTGATAGACAAGTTTCATGTTCACAACTTGAATTGCAGAGGTCAAGAGT TTAAAGAGTTTGGGATGGAAAGAAATCAAGAATTGGGCT

Sequence 150

CNCCGCGGTGGCGCCGCTGTGAAACAATGCTCATTGCTCTTGAAACGACAGCGATGTTT CCGTAACGGCATCTTAGCACGAAAAAGCTCCACGGTCTCATTCCACAGCCTGGTAGCTCG GTACCTCGGCCGCTCTAGAACTAGT

Sequence 151

GGTATGCCATTTCCAGAAAGTTGCAGATGAGCACCATTGGGCATTACCCAAATTCTGTGA CACATTGAGCAATGAAATTCAGGGAATTGGGACAATGACCTCTTGGGCATATGAAAGAAT TAAAAGAGGGCTAGGGCTTAGGGAGGGGGGGATCTAATCGGGAGGGGATGTTCTGTCCCNA GCCCTTCCTTCCTTTCT

Sequence 152

Sequence 153

GCGGTGGCGGCCGAGGTACACCTGCAACTGTGCGAATGGTCCTGTTGCCTCCTGCATTTT GGCCTCTGTTCTATAAAGGAAGAGTAAAGATGGAGCTCCTCCTGCCTCCATCACGAAAGC ACATATCATCTGTCCCTTTGGATTTTACTTCCAGGACGCGTGTCGTCCCCAGCGTGTG

GCCTTATGGTGCCGGCAGAGCCTCAGCTATCTGCCTGGGAAGTCGGATGTCCTTGGAGAG AATTTGGAATGCAGATAATTTTCTTATTTCTTGAGAGCTTACTTTAATCAGCATGACA

TACCTAAACACTGAAGATGGCCTTATATTAGTAAGATTTGCACAAAATTAAGTATACCT

TGCAAACTATTACTTTGGTTTTTAGGAGTTTGATCAGATGAAGAAGTNATGGTATCACA

ATATATGTAAGAAGGCCAACCCATCATTATTTTTTGNAAGTGNTTTTTATTAAAAACC

CNCCGCGGTGGCGTNCGGCCCCGCCTTTTCTGCGGCTTTCAGCTGCGCGTTTCAGGTCG
TCAATGAGGTCGTCGGCATCTTCGAGACCGATGGACAGGCGGATCGTGCCCTGGCTGATG
CCTGCGCCGCCAGCGCTTCGTCGCTCATGCGGAAATGCTGTGGTGCTGGCCGGGTGGAT
CACCAGGCTGCGGCAATCGCCCACGTTGGCCAGGTGGCTGAAGACCTTGAGGGTTTCAAT
GAACTTCTTGCCCTGCTCGCGGTTGCCCTTGAGGTCAAAGCT

Sequence 155

CGCGGTGGCGCCCCGGGCNGGTTATAAAAACGAACATGTATAAACGCTTACGCAAACC CTTTTTAATGTTCTGAAGTCAGTCTTTGTAAGTGAAATCGCTGGAGACTAGAAAGTATG

AATGGCAGTCTACCTGGGCAACCTACAAAAAATTTAGCTTGAAAAGACTTCAGTCTCCGC

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Table 1

TCCCCTGTTGATCTCATGGAGTGGGGAATGGGAATTGAACCAGAACTGGAAAATTATTTA GGAAAGTTTGTTAACTACTCTTTGTTGATCTCATGGAGTGGGGAATGGGAATTGAACCAG AACTGGAAAATTATTTGGGAAAGTTTATTAAC

Sequence 156

CTGGCGGCCGCCGNNCTGGTNCTTNCATCTNGGCTNCCTATANGCTNTCTTTTTTACAG ACGGCCATGAAATGCAATCCAGCTGAAGTATTATCATCTTGTAGCATTTCAAAAGGAACC GTCGAAGTCATCCAAAGGATGGGAACCACAATGTTCTTGTTGTTCCTTGGGTTTCTTA ΑT

GATTTCTGAATCATCATTATTAATTATGGAATTCTCTGGTCGAAAAGTCACATTTGGTT T

TCTCCTCAGTTTCTCACATCTTTTTTCTTGCAGCTCTTTCTCAGCTCTTCTTCCTTGCCT TTTTTACTGGCCTTTCCTTGTCTTACTTCAGGTGGTTCTATTTTGACCTTTAAGAAGG

TGAAGGGTGGTNCAAGCATCACCTTGGTTCNAATAAAATTAATGGTGTTAGGTTTCTGGT GGCCTTNGTTTAAAACGCAAATGGGGGTTTTTTNANGGGGGGANAAGGTTGGGGT

CCGCGTGGCGGCCGAGAATGTCGCCAAACTGCCGTCTTCCCTCGGCCGCTGCGAC AAACACCCCACAAAATGGCGGCATGCGCCGTCGCCCTAGAATCCCCCGAGTCGCCTCTCC CCGCGTACCT

Sequence 158

CCCAGGCCCAGCTACTCGAAGAACAGCCAATGGATTGGAACGTCCTAGGACAGATGCCA CGGCTTTGACCCAGGCTGGGGGTGCACAGGATCTCACTGGNGNTAGTTGGTCGGATGGGA AAGCCCCATGGGTCCACCAGGATGAGGTGTTTAACTNTATCAGGGNACCTTGCCCGCTCT **AGAA**

Sequence 159

CCCCGCGGTGGCGGCCGGCCGGGCAGGTACACAGGACCAATGCTGCCCATCCCATGGAAT TTACAAACATTCTACAGCGCAAAAGGCTCCAGACTTTGATGTCAGTGGATGATTCTGTGG AGAGGCTGTATAACATGCTCGTGGAGACGGGGGAGCTGGAGAATACTTACATCATTTACA CCGCCGACCATGGTTACCATATTGGGCAGTTTGGACTGGTCAAGGGGAAATCCATGCCAT ATGACTTTGATATTCGTGTGCCTTTTTTTATTCGTGGTCCAAGTGTAGAACCAGGATCA

TAGTCCCACAGATCGTTCTCAACATTGACTTGGCCCCCACGATCCTGGATATTGCTGGGC TCGACACCCCCTGATGTGGACGGCAAGTCTGTCCTCAAACTTCTGGACCCAGAAAAGC CAGGTAACAGGTTTCGAACAAACAAGAAGGCC

Sequence 160

TGGCGGCCGCCGGGCAGGTACACAGGACCAATGCTGCCCATCCACATGGAATTTACAAA CATTCTACAGCGCAAAAGGCTCCAGACTTTGATGTCAGTGGATGATTCTGTGGAGAGGCT GTATAACATGCTCGTGGAGACGGGGGGGGGGGAGATACTTACATCATTTACACCGCCGA CCATGGTTACCATATTGGGCAGTTTGGACTGGTCAAGGGGAAATCCATGCCATATGACTT TGATATTCGTGTGCCTTTTTTTATTCGTGGTCCAAGTGTAGAACCAGGATCAATAGTC

ACAGATCGTTCTCAACATTGACTTGGCCCCCACGATCCTGGATATTGCTGGGCTCGACAC **ACCTCCTGATGTGGACGCAAGTCTGTCCTCAAACTTCTGGACCCAGAAAAGCCAGGTAA** CAGGTTTCGAACAAACAAGAAGGCCAAAA

Sequence 161

CGAGGTACCATCCTATTAATACTAACTTCTGCTTCTACATACTGTAGACCTTTCTGGAT

CTTTCTATACCAAAGGTAAATGCTGAATGAGAAAATCCTGACTCTTGCAAGTATCTATA

ACCAAGAAGTTGACCTCATCACTGCTTATACTCATCTTTATTCCCACTTAAACCATGAG

G

TCCCAACACAGGATATAACCCATTGGGCAGTGCATTGATGTGGGGGATGTGCAACTGANT ATNCCGGTCACCGCCAATCACAAGTTTGCTGGTGTTGATGCTGGAAACGGTGGCCTCCA ACGCCGCTCCCCGGGAA

Sequence 162

GGCGGCCGAGGTACCTGGCCTGCTGGCATAGTTCTTTGACCCGTTCATATTTGGGCAAGT
GATTTGACTGTTGGATATTCTTGCTGGATTCCTCCTTCTTACGTAGAAATTTGCCTCTT
T

GCTTTTCTGGGTCCAGAAGTTTGAGGACAGACTTGCCGTCCACATCAGGAGGTGTGTCGA GCCCAGCAATATCCAGGATCGTGGGGGCCAAGTCAATGTTGAGAACGATCTGTGGGACTA TTGATCCTGGTTCTACACTTGGACCACGAATAAAAAAAAGGCACACGAATATCAAAGTCAT ATGGCATGGATTTCCCCTTGACCAGTCCAAACTGCCCAATATGGTAACCATGGTCGGCGG TGTA

Sequence 163

GGGGCCNCGCGTCGGGTGGCTCTATGTAGTTCTAATTTGCATTTCTCTAATGACTAACG
ATGTTAAACATATTTTTATGTACTTGTTTCATGTACTTGTTGATATGTCTAATTCAATTCC
TTTCACCATTTTTATGGAGCTGTTTTTTTATTATTGAGTTGTAGGATTTCTTTATATATG
CTGCATACCAGGCCTTTGTTATATACATGCTTTGCAATGTACATTGTCTTAAAATCTGT
G

GCTTGCCTGTTCAATTCATTAGTGGTGTTTTGTTAAGCAGTTTTTAATTTTGATGAAGT

Sequence 164

Sequence 165

NCCTGGCATCAGCNATTAGNAATCAACCTGTTAATCCAAGGTCTTTAGAAAAACTTGAAA
TTATTCCTGCAAGCCAATTTTGTCCACGTGTTGAGATCATTGCTACAATGAAAAAGAAGG
GTGAGGAAAGAAGATGTCTGAATCCAAGAATCCGAAGGGCCGTCAAGAAATTTTACCTGA
AAGGCAGGTTAGGCAAGGGAAAAGGGGTCTAAAAAGATCTCCCTTAAAAACCAGGAGGG
GGAAGCCAAAAATCCGATGCCAAGTGCTTTCCCAAAGGGGATTGGGGACCACCACCAAGA
GGCCTGGCCCTTCTTCCCATCACTTTCCCCTTACCATTGGGGAGGTAATTATTGTCAAA
GGCCATTAAATTTGGTTTCTTTAAGTTTTTGGCAGGTTTACCGCCTTAAAAAAAGGGTG
GA

CCCAAATGGATTGGGTCCACCCAAAATCNAGGCTTGCTTACTTACTTCCCTGGTAAGGGA

Sequence 166

Sequence 167

***GONGGCCGCCGGGCAGGTACGCGGGAATGGGCACNNTGNAGCGCAAGTAGGTCTACAAG ACGCTACTTCCCCTATCATAGAAGAGGCTTATCACCTTTCATGATCACGCCCTNGGGNATC ATTNTCCTTATCTGCTTCCTAGTCCTGGTATGCCCTTTTCCTNAACCACTCACAAACCA

AAACTTAACTAAATAACTTAACAATCCTNAGAACGCCTCAAGGNAAANTAAGAAAACCCG
TCNTGAAACTTATTCCTGCCCGCCCATCATCCCTTAGNTCCCTCAATTCTGGNCCCT
CN

CCAANCCCCTACCGCCAATCCCTTTTTACAATAAAACAGGACCGAAGGGTCCAAACNGAA TCCCCTCCCNTTACCCATTCAAAAAATCAAAATTNGGCCCACCCAAATTGGANNACCTT GAAACCCCTAACCGAAGTTACCCTTCGGGCCCGCTTCTTAAGAAACTAAGGNGGGAATCC CCCCNGGGGCCTGGNAANGGAAATTTCGGATAATCAAAGCCTTAATTCCGAATANCCCG GTCCGAACCCTTCGGAGGGGGGGGGGCCCCCGGGGTACCCCCANGCTTTTTGGGTTTCC

Α

Sequence 168

Sequence 169

TTTTGAAGCCCNCTTNCCGCGGNGGCGGCCGCCCGGGCAGGTACTTCCACTATTATTGAA TGTATTCTGTATTATAATTGTATATTTGATTGCCTATCTCCCCTCAACTGCATTATACAT TTTCATGGGTGAGCCAATGTCTTTTTCACTCTATTTCAGTGCCCTGCACATTTTCTGGC

CATAGTAAGCATCCCATGAGTATCTGATGAATAAATGTATTTCCAAATTCAGGTTCAGT

TCCTTAATCTGAAAATACAAAATCCGAAATGCCATAAAATTCAAAGCTTTTTGAGGACTG ACCTCGTGCTCAAAGGAAATGCTCATTGGAGCATTTTGGACTTCAGATTTTCAGATTAGG GATATTCAACCCGTAAGAATAGTGCCAATATTCCAAAATTCAAAAAAGTCTGAAATCCAA AACACTTCTGGTCCCAGGTATTTTGGATAAGGGATACTCAACCTGTACCGTAAAATACAT GCATACTTTCGATAGCACATGTGAAGGTATCTCTCTAAAATTGACCTCATTGGTTTCGT

CTCAAGCAAACTGACCTGGGGCCACTCAACATGGCTTTTATCGNGCCTGATGTTAATGCA TGTCTCTTTTTACAATA

Sequence 170

AAGTCTACATTTTATGTAGTGGTTAATGTTTGCTGTTCATTAGGATGGTTTCACAGTTA

ACAATGAGGAACATTTCATTTGACCCAACATCCTTTAGGAGCATAAATGTTGACACTAAG TTATCCCTTTTGTGCTAAAATGGACAGTATTGGCAAAATGATCCACAACTTCTTATTCT C

TGGCTCTATATTGCTTTGGAAACACTT

Sequence 171

TGAATTTTTTGGCAAATGTTTATGGTTTTACTTTCTTCATTAATCAAAAAANT Sequence 172

CGGGTACANATTTAAGGTAGATGGACTCAGGGTAAGGATAGCTACAGCTGTGTGGGGCTG
AAGGTCTGTGGCACTGAGCTACTGGGGAAGGAGGGCTCTGTTTTCATNGTGACACACTGA
GTTAATAAAGCACTTACTGAGGGAGCCCAGAGCCCAAACTCTAAATGTGCTGTAGAAAAAG
GGCCAAGTCATTGACTGCACCACTCCTTCAGCCAGAGGTAGAAAAGGATTTACTCTTCAGC
CATCTGGTAGAGCCCCAAGAACAAGTTACATGTGGACAAAGGGAGGAGGTATCATGG
TGATTAATAAATNCAAACAAAGCTGAATGATAAGNACCCCAGGATGGAATACAGTCTGAG
AAAGGCCTGGGCAAAG

Sequence 173

CCCAANTTGGGAAAAAANCCTTTTTTTGGGCCCCNTTTTTAAAAAGGNAAAAAGGGGGG TNGGGCCCTTGGGGGNAANTTTTTNCCCCCAAAAAGGGGGGTTTTTTTTGGGTTNAAAAA AAGGGGGGNCCAANTTTCNTTTCCGGGGGTTTAAAAAAAAGGGAACCCTTGGGCTTTTTTT TT

Sequence 174

GGCGAGCGGCCGGGCAGGTACCCTAGGGTGTTGTTTAAAGGACTTGATAACCAGCTT GAAGAGGTTCCTACTGACCAGAAATGGAATGAAATTTAAGCATCAATAAGGGTAATAACT GCAAGAGACTGACATCCACTATGGTTTAAATCCATGAGGTCACAATGATACTTAATTTT T

CATTATTCTGAAAACCAGTAAATAAAGGCTAAGATTCAACAAGCATTTATCCAGCCTTTC
CTCAATGAAATATATCNTAAGAGAACCGAATAGTTAACATAGAGACATGGCCGGGCAAGG
TGGCTCTCGCCTGTAATCCCAACACTTTGGGAGGCCCGAGGTGGGAAGATTGCTTGAGCC

Table I

Sequence 175

CAGGACCAAAACCTGGGGATTAAGCTAAGAAGTCTGGTGAGAGACTCTGTGGACGTAAA GAAGGGAATGAACACAGAGAAACTTTCAGCCAGATTCCTGATNGTCACCTGAACAAGAAA AGTCAAACTGGAGTGAAACCATGCAAATGCAGCGTGTGTGGGAAAGTCTTCCTCCCGTCA TTCATTCCTGGACAGGCACATGAGAGCTTCATGCTGGACACAAACCATCTGAGTGTTGGT GGGGAATGGANAGAGGACNCCCCCCGNAAACAGAAACCAACCATGGGGAAAAGCCTTCATTTCCCCCAGTAGTNGGTGCACCGGCTCACCAGTTAACNACCAACTTNGAAAGGAGACCTT TATGAATTGCAAGGGTGGTGCGGGGAAAGCCCTTTAAATTCTCCCA

Sequence 176

Sequence 177

Sequence 178

GGTGGCGCCCCGGGCAGGTACCAAACCATTTTCACTAGTTCAGGATAGGAATATTCA
TCAGATTGTCTCTGTAAAAGTGAATCACAAAAATTCCACCTGTGTAGGTGTGGGACTGGA
CAGCTGAGTGACAGGGCCCTGGGAAGAACAGAAACCACTTTTCCTCTTTCCTCTGAAATA
TCAGAAGTTAAAAATCTACTCTGAGTTATATGTGCATCAATTTTAGACATATTGCTGAT

T
TTATTATGAAAATGAAGTGCTAAAGACAAAGGATATTTCCATTCCTCTGGACAGGCAGCC
ACAGACCAGCACTGCTTGACCCATGTGTATACACATGTGTGCTTTGTACCT

Sequence 179

TTTCTTCCAGCTTCTCTGGCCATCTTTTCTTGATCTGAGACAGTCTGATCAGTTTTC

GCCGCTCTAGAACTAG

Sequence 180

GGCGGCCGAAAACTGATCAGACTGTCTCAGATCAAGGAAAAGATGGCCAGAGAGAAGCTG
GAAGAAATACGATTGGGTGACATTTGGGGTTATATTGAAGAAGGTTACGCCACAGAGTGT
GAATAGTGGAAAAACCTTCAGCATATGGAAACTGAATGATCTTCGTGACCTGACACAATG
TGTGTCCTTGTTCTTATTTGGAGAAGTTCACAAAGCGCTCTGGAAGACGGAGCAGGGGAC
TGTCGTAGGGATCCTCAATGCCAACCCCATGAAGCCCAAGGATGTTCAGAGGAGGTGTG
TTTATCTATCGATCATCCTCAGAAGGTCTTAATTATGGGTGAAGCTCTTGACCTGGGAAC
CTGTAAAGCCAAGAAGAAGAA

Sequence 181

GTGGCGGCCGAGGTACTACAGTCACGCTCCTCTGAACCATCCTTGGGCTTCATGGGGTTGGCATTGAGGATCCCTACGACAGTCCCCTGCTCCGTCTTCCAGAGCGCTTTGTGAACTTCT

32

Table 1

CCAAATAAGAACAAGGACACACTTGTGTCAGGTCACGAAGATCATTCAGTTTCCATATG CTGAAGGTTTTTCCACTATTCACACTCTGTGGCGTAACCTTCTTCAATATAACCCCAAA

GTCACCCAATCTATTTCTTCCAGCTTCTCTCTGGCCATCTTTT

Sequence 182

Sequence 184

Sequence 185

CCGGNCGCCGGCAGGTACGCGGGGGTGTCCGGCGATGGCACGGGCATTTCTTCGTTTA
TAGCTGTCTGTTTGCATTCTGATTGGGAACACTGGGATCATTTTCATCATGCCGACAGTG
GTGGTAATGGATGTATCCCTTTCCATGACCCGACCTGTGTCTATTGAGGGGTCCGAGGAA
TACCAGCGAAGCACTAAGTAATATGGATGATTATGACAAAACCTGCTTGGAGTCTGCATT
AGTTGGTGTTTGCAATATCGTTCAGCAAGAATGGGGTGGTGCAATTCTTGCCAGGTTGTC
CTGGTGACAGACGGNTGTCTGGCATTGNNAGAGGGCCACTGGGACATTCNNTANCCANTC
AAAATTAACNAAAGTGNGAGCACNNGGTTTCCCTACCTTTTCNTTTCCCATCAANTNT
AT

ATACCANGGNNGGGCGAATTTGGNGGGCCCCNCGCCCCCTNTTCTTTGGGACTTTTAAAA CNGTTTGTCNTTTCCNCTTTGGGGNGNGGCCATTTTTATNTTGGGGGGNCCCCTTGGGGA ANAANAACCCCCCNCCCCTTTANAAAANNGGNCCCCCCCCGNGNGGGGGGGNAATTAAA AAAAAATTTTNCCCCCCCCCCCCCGGG

Sequence 186

TCCCGCGGTGGCCGAGGTACTCACACGTCACCGCAAATTCACAGTCTGCGTGCACGG CTCTCCATTCTTCTTCGCTTTACAGGTTCCCAGGTCAAGAGCTTCACCCATAATTA

GACCTTCTGAGGATGATCGATAGATAAACACACCTCCTCTGAACCATCCTTGGGCTTCAT
GGGGTTGGCATTGAGGATCCCTACGACAGTCCCCTGCTCCGTCTTCCAGAGCGCTTTGTG
AACTTCTCCAAATAAGAACAAGGACACACATTGTGTCAGGTCACGAAGATCATTCAGTTT
CCATATGCTGAAGGTTTTTCCACTATTCACACTCTGTGGCGTAACCTTCTTCAATATAA

· . -

Table 1

C CCCAAATGTCACCCAATCTATTTCTTCCAGCTTCTCTCTGGCCATCTTTTCTTGATCTG

GACAGTCTGATCAGTTTTCGGCCGCTCTAGAACTAGGTGGATCCCCC

GGCGGCCGCCGGGCAGGTACCAGAGATTCCAGAGAGTGGTCTTTGGAATTTCCCAACTC
CTTTGCTTCAGTGCCCTGATCTCTGAACTAACAAACCAGAAGAAGTGGCAGCATGGACT
TATCATTACAGCACAAAAGCATACTCATGGAATATTTCCCGTAAATCTGCAGAATCGCTA
CACAGACTTAGTGGCCATCCAGAATAAAAATGAAATTGATTACCTCAATAAGGTCCTACC
CTACTACAGCTCCTACTACTGGATTGGGATCCGAAAGAACAATAAGACATGGACATGGGT
GGGAACCAAAAAGGCTCTCACCAACGAGGCTGAGAACTGGGCTGATAATGAACCTAAC
Sequence 188

Sequence 189

AGTGCACATTATTAGAAGAGAGCTTCAGATGAAAATAAAGATCAAGAAAAAGACTCTTGC
TTTGAGAAAGACACAAAGAAATCACATCATTCTTATTGGGATTACTGGGCTAGCCATATG
CCAGAAAAATGAAACTGGTCCCTTCTTACACCATATACCAAAAGCNGCCCANGATGGNTT
ACTTNAATGTNAAANCCAAAACT

Sequence 190

CGGCCGCGGGCAGGTACCATCGCCGTCCCATTGCTCACAGGGACTGGGAAGGCGATGCC
TGGCGGAGCTGCTGGTGGAGAGACTCGGGATGACTCCTGCTCAGATTCAGGCCTTGCTC
AGGAAAGGGGAAAAGTTTGGTCGAGGAGTGATAGCGGGACTCGTTGACATTGGGAAACT
TTGCAATGCCCCGAAGACTTAACTCCCGATGAGGTTGTGGAACTAGAAAATCAAGCTGTA
CCCTGATGCTACAGACGAGGACATCACCTCACACATGGAAAGCGAGGAGTTGAATGGTGC
ATACAAGGCCATCCCCGTTGCCCAGGACCTGAACGCGCCTTCTGATTGGGACAGCCGTGG
GAAGGACAGTTATGAAACGAGTCAGCTGGATGACCAGAGTGCTGAAACCCACAGCCACAA
GCAGTCCAGATTATATAAGCGGAAAGCCATGATGAGACAATGAGCATTCCCCATGTGAT
TGATAGTCAGGAACTTTCC

Sequence 191

CGCCGGGCAGGTACTCCCTGGAAAGTCCAGCTGAGAAAGCGATCCTGCCCTCTGCTCCTC CCAGGGTTACCCTCCTGTAAGTCTTCTGCTTAGTGTTCAGAATTGGGGGATGCTGGGACT GGGCAAGGACTTGTAGGCAACACCCCATAGCCTGCTCATGCCTGTTGGGTTGCCTATGGA 34

Table 1

TCATTCCCTGCTGGGCTCACTCACCGGCTTCGTATAAGGTCCTTTTTGAGGTTTATTA

TCCTTGTCCATATACTTGATGCTCTTCATTGGCTTGTCTGGGACCTGCCTTAGGTTCTCC

GAGGCATAAAAGGGCCGGACAGCCCCCGAGTTGGGGGAACTCTGAAGCTTCTTGGTGGCT GGAACCTTGGTCATCTTAAAAATCCTTCAGGTTTTAGCCTGTGCCCCCAAGACAAGGATT TTTCCAGAATCTTCTACTTCAAGTAGTTACTGGTATGAAGAAGTTTCGGCA Sequence 192

GGCTTGAAATACAGCTGAAATAACTGAATTTTCTACTTGAAACGTGTGTGCCTCTCCACT GNGGGGCCAAGGCCCTGGAAATGTAAAGGGCCAATCTTTGTTACAGAGGGGTTCATTGCA GTGAAGGGCGGGTTCTGCAAAGACAAACAGGTCTCACAGATAGTTGCCCCCGCGTACCT Sequence 193

NGGCGGCCGAGGTACGCGGGGGGCTGNAGTAGGCTTCGTCTTCGGNTTTTCTCTTCCTTC
GCTAACGCCTCCCGGCTCTCGTCAGCCTCCCGCCGGC

Sequence 194

CGGCCGCAGCGGCAGCTACAACAACCGCGTCGCTCTCCGCTCAATTTCCAAGAGCCAGCTTGAAGCCAAGTGCCCCCGCGTACCT

Sequence 195

Sequence 196

TGATGAATCACCATGGTCGCCGCCTGAGCGCCAACCCCTACCCCGTCGCCTCATCGGATCCCCCCGCGTACCTCGGCCGCTCTAGAACTAGTG

Sequence 197

NCGAGGTACCTGCCTNACAGNGCAGGGCGGTATGCCGCCAAACGCTTCCGCAAAGCTCAG TGTCCCATTGTGGAGCGCCTCACTAACTCCATGATGATGCA

Sequence 198

TTGCTCAGCCTTTCCAGGCCCCTCTGATGAGCTCTCTAATCAGCAGGACCAAGGTGTGAA
TGTGGGAATGAACATGGATCCATCCCATTGGATGGAGAAAAGGTGGACAGCCTGTTCG
TCTCTCATGTCAGCCTAGGGCTGGGAACAGTTTGTGAGGACTTATCTGTTGTACCT
Sequence 199

GGACTTGCTCAGCCTTTCCAGGCCCCTCTGATGAGCTCTCTAATCAGCAGGACCAAGGTG TGAAGTGGGAATGAACATGGATCCATCCCATTGGATGGAGAAAGGTGGACAGCCTGT TCGTCTCTCATGTCAGCCTAGGGCTGGGAACAGTTTGTGAGGACTTATCTGTTGTACC

Sequence 200

GANGAGAAAGCTGGAAGAAATAGATTGGGTGACATTTGGGGTTATATTGAAGAAGGTTAC GCCACAGAGTGTGAATAGTGGAAAAACCTTCAGCATATGGAAACTGAATGATCTTCGTGA CCTGACACAATGTGTCCTTGTTCTTATTTGGAGAAGTTCACAAAGCGCTCTGGAAGAC and the second

Table 1

GGAGCAGGGACTGTCGTAGGGATCCTCAATGCCAACCCCATGAAGCCCAAGGATGGTTC
AGAGGAGCGTGACTGTGAGTACCT

Sequence 201

GCCGAGGTACTCGGGCAAAGAGGGTGACANGTTCAAGCTCAACAAGTCAGAACTAAAGGA GCTGCTGACCCGGGAGCTGCCCAGCTTCTTGGGGAAAAGGACAGATGAAGCTGCTTTCCA NAANCTGATGAGCAACTTGGACAGCAACAGGGACAACGAAGGTGGACTTTCCAAGAAGTA CCTGCCCGGGCGGCCCGCTCTAGAACTAGT

Sequence 202

TATTNACTAAAAAGCCAAAAGACCAAGTTNTGGGTACCCTGCCCGGGGCCGGCCCGCC
TCTTAAGAACCTAGGTNGGGATCCCCCGGGGGCCTGCAAGGGAATTTCCGATATTCAAA
GCCTTTATCGGNTACCCGGTCCGACCCTNCGAGGGGGGGGCCCCGGGTACCCC

Sequence 203

GCGGCCGCCCGGGCAGGTACGCGGGGAAGTCTNTCCTTTCTCGTTCCCCGGCCATCTTAG CGGCTGCTGTTGGTTGGGGGCCGTCCCGCTCCTAAGGCAGGAAGATGGTGGCCGCAAAGA AGACGAAAAAGTCGCTGGAGTCGATCAACTCTAGGCTCCAACTCGTTATGAAAAGTGGGA AGTACC

T

Sequence 204

CTCCCGCGGTGGCGGCCGAAAACTGATCAGACTGTCTCAGATCAAGGAAAAGATGGCCA GAGAGAAGCTGGAAGAAATAGATTGGGTGACATTTGGGGTTATATTGAAGAAGGTTACGC CACAGAGTGTGAATAGTGGAAAAACCTTCAGCATATGGAAACTGAATGATCTTCGTGACC TGACACAATGTGTGCCTTGTTCTTATTTGGAGAAGTTCACAAAGCGCTCTGGAAGACGG AGCAGGGGACTGTCGTAGGGATCCTCAATGCCAACCCCATGAAGCCCAAGGATGGTTCAG AGGAGGTGTTTTATCTATCGATCATCCTCAGAAGGTCTTAATTATGGGTGAAGCTCTTG ACCTGGGAACCTGTAAAGCCAAGAAGAAGAATGGAGAGCCGTGCACGCAGACTGTGAA Sequence 205

CNCCGCGGTGGCGGCCGAAAACTGATCAGACTGTCTCAGATCAAGGAAAAGATGGCCAGA
GAGAAGCTGGAAGAAATAGATTGGGTGACATTTGGGGTTATATTGAAGAAGGTTACGCCA
CAGAGTGTGAATAGTGGAAAAACCTTCAGCATATGGAAACTGAATGATCTTCGTGACCTG
ACACAATGTGTGCCTTGTTCTTATTTGGAGAAAGTTCACAAAGCGCTCTGGAAGACGGAG
CAGGGGACTGTCGTAGGGATCCTCAATGCCAACCCCATGAAGCCCAAGGATGGTTCAGAG
GAGGTGTTTTATCTATCGATCATCCTCAGAAGGTCTTAATTATGGGTGAAGCTCTTGAC
CTGGGAACCTGTAAAGCCAAGAAGAAGAAGAATGGAGAGCCGTGCACGCAGACTGTGAATTTG
CGTGACTGTGAGTACCT

Sequence 206

TCNCCGCGGTGGCGGCCGAGGTACTCACAGTCACGCTCCTCTGAACCATCCTTGGGCTTC
ATGGGGTTGGCATTGAGGATCCCTACGACAGTCCCCTGCTCCGTCTTCCAGAGCGCTTTG
TGAACTTCTCCAAATAAGAACAAGGACACACATTGTGTCAGGTCACGAAGATCATTCAGT
TTCCATATGCTGAAGGTTTTTCCACTATTCACACTCTGTGGCGTAACCTTCTTCAATAT

- ACCCCAAATGTCACCCAATCTATTTCTTCCAGCTTCTCTCTGGCCATCTTTTCCTTGAT C

TGAGACAGTCTGATCAGTTTT

Sequence 207

TCCCGCGGTGGCGGCCCGGGCAGGTACATGGTTCTTCCTCAGAAAGTGGTTCTTCCT TAATGTGTTTCTTCTTCTCTCTTCTTCTTCTTCAACAGATGNGGCTTCNTCTTCTG CCACTTTTTCTTCTTCCTCTTCTTCAACTGAATAGGGTAAGTGTAAAGGCACAACAAAT

AACACTGTATCAGATCTCATTCCTTCCAAAAACGTTTGAGTCCTAGTTTTTTTCTGTCA

TCTCATCAACTACCCAATGTTTGTTTTGTTTATTTTATAATTGGGAAGGTTCTCCAAGG

CTACCACTAACTTTAACGAATGATATAGATAGAGCTCAGAGCAATCTTCTCACGATCATG
AAGTCATGTATAAAAATCAGGATTAAAACAAAGGTCATCTGATCTCCAATCATTATTGGG
AAGGAAAGTCAATTATATTANGAAATGGTTAAGAGCTTGCACTCTGAAGTCAGACGGCCT
GGGTTTAATCTACCTGCTGCACCCTGAAAAATTGGTATTTACCCTT

Sequence 208

CGCGGTGGCGGCCGGCCGGTACATGGTTCTTCCTCAGAAAGTGGTTCTTCCTTAA
TGTGTTTCTTCTTCTTCTTCTTCTTCTTCACAGATGTTTCTTCTTCTTCTGGGA
CTTTTTCTTCTTCTTCTTCAACTGAATAGGGTNAGTGTAAAGGCACAAAATTAA

AAACTTAAGAATGTCTTATCTTACTGGACTGGTACTGGATTAAAAAGA Sequence 209

Sequence 210

GGTGGCGGCCCGAGGTACTCACAGTCACGCTCCTCTGAACCATCCTTGGGCTTCATGGGG TTGGCATTGAGGATCCCTACGACAGTCCCCTGCTCCGTCTTCCAGAGCGCNNTGTGAACT TCTCCAAATAAGAACAAGGACACACATTGTGTCAGGTCACGAAGATCATTCAGTTTCCAT ATGCTGAAGGTTTTTCCACTATTCACACTCTGTGGCGTAACCTTCTTCAATATAACCCC

AATGTCACCCAATCTATTTCTTCCAGCTTCTCTCTGGCCATCTTTTNCTTTGATCTGAG

CAAGTCTGATCAAGTTTTCGG

C

Α

Sequence 211

GCGGTGGCGGCCCAGGTACTCACAGTCACGCTCCTCTGAACCATCCTTGGGCTTCATGG GGTTGGCATTGAGGATCCCTACGACAGTCCCCTGCTCCGTCTTCCAGAGCGCTTTGTGAA CTTCTCCAAATAAGAACAAGGACACACATTGTGTCAGGTCACGAAGATCATTCAGTTTCC ATATGCTGAAGGTTTTTCCACTATTCACACTCTGTGGCGTAACCTTCTTCAATATAACC C

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Table 1

CAAATGTCACCCAATCTATTTCTTCCAGCTTCTCTCTGGCCATCTTTTCCTTGATCTGA

ACAAGTCTGATCAGTTTT

Sequence 212

CTTGAGATTGCTCTTGGAATGGAAATTAGGCTTTTTTGAAGGTGTCGACCCTTTTTGG

CATTTCTTCAGCAGTTACTTTTTATTTTTTTTAAAATGTTTTGACACACAAGTCTTNTGG ATAAATGAATCANTTCACCCAANCACCCCGGATTTACTTCTCCTTTGCTCTGGNTNAA GT

Sequence 213

GCGGNGGCGGCCGTTTGAGAAGCCAGCGCTCACCCACCCGGGGTCTCTGTGCATTGACCT TTGGGTGCTGACTTGGAGAAAAGCACAAACACGACCAGTCCCCCGCGTACCTCGGNG Sequence 214

CTTGGATGAGAGTGAGGAAAAAGGTATTAAGTATTGGCTTT

Sequence 215

GNGGCGGCCGAGGTACTTTGGAGTCCCCTGGTTTCTCAAGAATTGCCGTTGACTCTTTCT
TTGGCTTCTGCTGGCACGGTAACCAGACTCCCTACAACTGCACTCTTTGTCTTTGTCA

GAAGCCGCGAGCGTAGAGGTTCCGCGGTGCTCTGCCGGACTTGAGCAGGTCACTGGGTCCT TTACACTTGTGAATTCGAAGCTTGCCAGATGTATCCTCAATGCATTGCCACTTCTGCC CC

Sequence 216

CCGCGGNGGCGGCCGAGGTACTTTGGAGTCCCCTGGTTTCTCAAGAATTGCCGTTGACTC
TTTCTTTGGCTTCTGCTGGCACGGTAACCAGACTCCCTACAACTGCACTCTTTGTCTT
TG

TCATGGAAGCCGCGAGCGTAGAGGTTCCGCGTGCTCTGCCGGACTGTGAGCAGGTCACTG GGTCCTTTACACTTGTGAATTCGAAGCTTGCCAGATGTATCCTCAATGCATTGCCACT TC

TGCCCGGTTGTTCACAGGCTGTCTGGTACCGAGATCTCCGACCAGTCTGGGGGCGCTGG

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Table 1

CGGCCTGCGCAGCCACCTCAAGATCACAGATTCTGCTGGCCATATTCTCTACTCCAAAGA GGATGCAACCAAGGGGAAATTTGCCTTTACCACTGAAGATTATGACATGTTTGAAGTGTG TTTTGAGAGCAAGGGAACAGGGCGGATACCTGACCAACTCGTGATCCTAGACATGAAGCA **TGGAGTGGAGGCGAAAAATTACGA**

Sequence 217

CCCGCGGTGGCGGCCGAGGTACTATCAAACAACATGATACAATTTAAATGTGTCATAGCA ACTACTAGTGGTCACCTGAAATCCATTTTCCCCTCCTTCACAGTAAGAGTTTTAGNTG AA

TGAGTGGCCACTCATAGAGAGATTGCATTTCTGGCTTCCCTTGCAGCCATAGGTAGCCAT GGGACAAAGTTCTAACCCAGGGGGGGTCCAATCTTTTGGCTTCCCTGGGACACACTGGAA GAAGAAGAATTGTCTTGGGCCACACATAAAATACACTGGCATCAAGGATAGCTGATGAGC AAAAAAAAAAAAAAAAAAAAAGTACCTGCC

Sequence 218

CCCGCGGTGGCGGCCGAGGTACCATCCTGTTCNACAGAGCCATTGCCTATTCCTAAATTG AATCCGACTGGGCGTGCCCCTCCTCGGAACACAACAGTAGACCTTAATAGTGGAAACATC GATGTGCCTCCCAACATGACAAGCTGGGCCAGCTTTCATAATGGTGTGGCTGCTGGCCTG AAGATAGCTCCTGCCTCCCAGATCGACTCAGCTTGGÄTTGTTTACAATAAGGGGAAGCAT GCTGAGTTGGCCAATGAGTATGCTGGCTTTCTCATGGCTCTGGGTTTGAATGGGCACCTT ACCAAGCTGGCGACTCTCAATATCCATGACTACTTGACCAAGGGCCATGAAATGACAAGC ATTGGACTGCTACTTGGTGTTTCTGCTGCAAAACTAGGCACCATGGATATGTCTATTA CT

CGGCTTCTTAGCATTCACATTCCTGCTCTCTTACCCCCAACGTCCACAGAGCTG Sequence 219

GTTATTGGTGGTGAAGACCCGNAGCAACAGTGGGCATGTCTTCTCGCGGTCGATCGGNTT CTCTGGCTCCTTNTTAATTTCCTCCTGGGNAACGCGCGACTCCACCGCCATCTTCCTCCT ACGGCCTGCGAGACGCTCCCCGCGTACCTCGGCCGCTCTAGAACTAAGTGGGATCCCCC **GGGCT**

Sequence 220

C

GGCGGCCGAGGTACCATGATATCATGTATCCTGCTTGGACATTTTGGGAAGGGGGACCTG CTGTTTGGCCAATTTATCCTACAGGTCTTGGACGGTGGGACCTCTTCAGAGAAGATCTGG TAAGGTCAGCAGCACAGTGGCCATGGAAAAAGAAAACTCTACAGCATATTTCCGAGGAT CAAGGACAAGTCCAGAACGAGATCCTCTCATTCTTCTGTCTCGGAAAAACCCAAAACTTG TTGATGCAGAATACACCAAAAACCAGGCCTGGAAATCTATGAAAGATACCTTAGGAAAGC CAGCTGCTAAGGATGTCCATCTTGTGGATCACTGCAAATACAAGTATCTGTTTAATTTT

GAGGCGTAGCTGCAAGTTTCCGGTTTAAACACCTCTTCCTGTGTGGCTCACTTGTTTT CC

ATGTTGGTGATGAGTGGCTAGAATTCTTCTATCCACAGCTGAAGCCATGGGTTCACTATA TCCCAGTCAAAACAGATCTCTCCAATGTCCAAGAGCTGNTACAATTTGTAA Sequence 221

GCNGGTACAGCAACAAGAATCAGATGCTCTTTAGAGATCCTCCATTTCATTACTCTAACA TTCTTCAATGTGGTTCCAGCCACGCATAGTCATATAGATACTACATATNCAAAGATAAC

TACTGAAGCTTGTTCACAGAACCAAGCTTTCTCCTGGATAAGCTCTTCTNTCCCCTAC CC

CGCACTTCTTGGGNAAGGTATTACCCCAAAATGCTCTTCAGNGGATTTAAAATAAACAAT TTTTTAAAAANANGGACACTTAACACTCACAAAAAAATGGGGGAAATTTTGCTCGGGCCA TTGGACNGCGGAAACCAAATTACCGGGTTTAACTTCCAAGNATGGCTTGTCATTTCAAAA CATAAGGACCAAGCTATTCTTACNTTTTAATCAACCCAAATTTCCTGGGGGGAAAGGNCC 39

Table 1

TTTCTTCTTATTTTAGGTCTTCGGGGATAGGTCTTNTANTCCCAATAAATAATTGGGGT

ATGGCCGGCCTGCGGAACGAAAGTGAACAGGAGCCGCTCTTAGGCGACACACCTGGAAGCAGAGAATGGGACATTTTAGAGACTGAAGAGCATTATAAGAGCCGATGGAGATCTATTAGGAATGTTCTCANCAGATGTAGAGGTTTTCTGTAGATGATGATGTCC

TATGGCCATATCTCCAAAAGANATGAATCCGACAGCNGATACAAAGTTTTTTGGGCTGGG
TTTATTGCNTCATATAGNNCTTTGGCCCAAATGGNANGCTTCACCCTATATNTTGGGT
TT

ATGGNCTAAATTATTANGACCCANAGGAY AAGGAGCCTCNTTAATTGGTCTCCCATCTT GATTTTCCCGTGGNAAGCACAACCTGCCCTCTATGCATATCTTCCACCATCCCCAAGCT TTCTCATAAANTAAAAATAACCTACCAATGGCCTGGGTTGCNTCCGTNGGGAATTTGNNT GGGGAAATTTGGGAAGCCANGTTTTTTTCAAGACCTTNGGNNTFTACAATTCCCTTTGGG AGAAA

Sequence 223

GGGCGGCCGAGTGATGCCATCTGCAGTTTTGTGATCTGCAATGATTCTTCCCTTCGAGG TCAGCCCATTATCTTTAATCCTGACTTTTTTGTGGAGAAACTCCGACATGAGAAACCT GA

GATTTTCACTGAGTTGGTGGTCAGCAATATCACAAGGCTCATCGATTTACCTGGAACTGA
GTTGGCTCANCTGATGGGGGAAGTGGACCTTAAGTTGCCTGGCGGGGCTGGCCCAGCATC
AGGATTCTTCCGGTCTCTCATGTCTCTCAAGCGAAAGGAAAAAGGAGTGATATTTGGGTC
CCCACTGACGGAGGAAGGCATTGCCCAGATATACCAACTGATTGAGTATCTACACAAAAA
CTTGCGAGTAGAGGGGTTTGTTTAGAGTACCT

Sequence 224

CCGCCCGGGCAGGTACTCCCTGATAAAGGGGAATTTCCATGCCGTCTACAGGGATGACCT
GAAGAAATTGCTAGAGACCGAGTGTCCTCAGTATATCAGGAAAAAGGGTGCAGACGTCTG
GTTCAAAGAGTTGGATATCAACACTGATGGTGCAGTTAACTTCCAGGAGTTCCTCATTCT
GGTGATAAAGATGGGCGTGGCAGCCCACAAAAAAAGCCATGAAGAAAGCCACAAAGAGTA
GCTGAGTTACTGGGCCCAGAGGCTGGGCCCCTGGACATGTACAGACTCTCATTTTATGAT
GTATCCTACTGCATCAGGACATTTGTGTCAATGTCAGGTGACGAGGGGAAATGAAAGTGA
TGAGACGATGAGAGGAGTGAAATACCAAGGACGCCATACTAGGAAACCCAGGTCTATTTG
TTATCAGAGTAAGGATCAAGCCAGATAGCCTGTTATGTAATTTCTCCGATAAAAAGATTT

GAAAGCAGGTGCTGTGGGCATCTGTATGGGGGAATCGCACTCATAGAATTATTTTCATTT GTAAATATTTGGTATCAGGCCCAGCAAGGGAAA

Sequence 225

CTCCCGGGGGGGGGGGGGGTACTCACAGTCACGCAAATTCACAGTCTGCGTGCACGG CTCTCCATTCTTCTTGGCTTTACAGGTTCCCAGGTCAAGAGCTTCACCCATAATTA

GACCTTCTGAGGATGATCGATAGATAAACACACCTCCTCTGAACCATCCTTGGGCTTCAT
GGGGTTGGCATTGAGGATCCCTACGACAGTCCCCTGCTCCGTCTTCCAGAGCGCTTTGTG
AACTTCTCCAAATAAGAACAAGGACACACATTGTGTCAGGTCACGAAGATCATTCAGTTT
CCATATGCTGAAGGTTTTTCCACTATTCACACTCTGTGGCGTAACCTTCTTCAATATAA

CCCAAATGTCACCCAATCTATTTCTTCCAGCTTCTCTCTGGCCATCTTTTCCTTGATCT

AGACAGTCTGATCAGTTTT

Sequence 226

AAAAT

Sequence 227

CNCCGCGTGGCGGCCGCCCGGCAGGTACGCAAAGTGATTCAGAGAACGCTGGGGCTCA
CAGGCGCTGTAGCAAACGTGCAACTCTTGAGGAACACTTAAGACGCCACCATTCAGAACA
CAAAAAGCTACAGAAGGTCCAGGCTACTGAAAAGCATCAAGACCAAGCTGTTACTAGCTC
TGCGCATCACAGAGGGGGGCATGGTGTTCCACATGGGAAATTGTTAAAACAGAAATCAGA
GGAGCCATCGGTGTCAATACCCTTCCTACAAACTGCATTATTAAGAAGTTCAGGGAGTCT
TGGGCACAGACCAAGCCAGGAGATGGATAAAATGTTAAAAAATCAAGCAACTTCTGCTAC
TTCTGAAAAGGGATAATGATGATGACCAAAGTGACAAGGGTACCTCGGCCGCTCTAGAACT
AGTG

Sequence 228

Sequence 229

Sequence 230

GGCGGCCGCCGGGCAGGTACGCGGGGGGGGGGAGTCAGACCCAGTCAGGACACAGCATGG
Sequence 231

CCACCGCGGTGGCGNCGAGGTACGACGTTTCCATCAGCTTGTCTGTTTCATTCCCTGAT
GTTACGAGCAATATGACCATCTTCTGTATTCTGGAAACTGACAAGACGCGGCTTTTATCT
TCACCTTTCTCTATAGAGCTTGAGGACCCTCAGCCTCCCCCAGACCACATTCCTTGGATT
ACAGCTGTACCTGCCCGGGCGGCCGCTCTAGAACTAGGTGGATCCCCCGGGCTTGCAGGT
AATNTCGGATATCAAGCCTTATNCGATACCCGTCGACCCTTCGGAGGGGGNGGGCCCCCG
GGTACCCCAGCCTTNTTGTTTCCCCTTTTAGGTGGAGGGGGTTTAAATTTGCCGCCGCNT
TGNGCGGTAAATTCAATGGGTTCATTAGGCTTGTCTTCCCCTGTGGTGNAAAATTNGTTA
ATCNCGGCTCACCAANTTTCCCACCACAAACCAATANCGNAGNCCCGGGGGAGGCCATTA
AAAAGGTNGTAAAAAGCCCTTGGGGGGTTGGCCCTAATGAAGTGGAGCCTAAACTTCACA
ATTAAATTTGCCGTTTGGCGCCTTCACTTGCCCCGCTTTTTCCAAGTCCGGGGA

Sequence 232

AAAAAAAAAAAAGATATTTTAATATATCAGATCCNCAAATATGAAATAAAACTAAGNNGA GCTGGTATTCATTTACACATAATTATCTTATACCGTTNGGAATAAGAATTTGGGGCNC GT

TAGCAAACCAAAAGGCTCAAAAAGACGTCGNGATATTTAGTTCTTGTCTCCCTCTACAAA NGGGAAGCACTNTTTTATCCGGCATTCCTAGGGGNGTTCCTATTTTCAA Sequence 233

CGGTGGCGGCCGNCCGGGCAGGACGCGGGGGCCAGTTCTCTTCGGGGACTAACTGCAACG GAGAGACTCAAGATGATTCCCTTTTTACCCATGTTTTCTCTACTATTGCTGCTTATTGT

AACCCTATAAACGCCAACAATCATTATGACAAGATCTTGGCTCATAGTCGTATCAGGGGT
CGGGGACCAAGGCCCAAATGTCTGTGCCCTTCAACANGATTTTGGGCACCAAAAAGAAAT
ACTTCAGCCACTTGTAAGAAACTGGGTATAAAANAAGTCCATCTGTGGGACAGNAAAAAC
CGACTGTGGNTATTATGGAANTGTTCGCCCTGGGTTATTATGGAGGAATNGGGAAAGGGA
AATGGAAAAGGGCTGCCCAAGNCANTTTTTTAGCCCATTTGACCCANIGGTLITATTGGG
CACCTTCTGGGGCCATCCGGTNGGGGGAGGCNCACCCCACCAAACCGGNAAGCCGCCTTA
TTTCCTTGGACCGNCCCTNAAANAAACCTTGAAGGGGGAAGGGGNGGAATCCGGAGGGG
AAAAGGGGGGA

Sequence 234

AATTCCTGTTATCGGNATATGGGTATCNAAATTTGNTTTGCCCTAGTTTTTGCCTTCTC

TTGCTTTCTGAATTGGGGGCAGCTTTGCCCCTCAAGGGGAAATTTAGCAATGTCTGGAGA
CATTTTTTTATTTTCATAATTTNGGGAGGGGACATGGGGGGAGGTTTGGTGGCTACAGG
AACCTTAATTAAGGTTCGAGGGACAGGGGTTAGGTGCTTGAACGGTTNCCACANGTAACA
CTTCGGGCNCGCTTNTAAGAAACCTAGGTGGGATTCCCCCCCNGGGTCTGGCNANGGAAA
ATTCCGANTATTNCNAAGCCTTANTCGANTACCCCGGNCGACCCTTNGANNGGGGGGGGG

Sequence 235

Sequence 236

GCGGCCGNCCGGGCAGGNACCTACGCCACAGACAGCCAGAGGGAAAGCGACCCAGACAGC
AGCCCCTCCTCGACAGGCCCACCCTGCAGCTCAGGCACCAAGAAAACAGCCGATACTGGC
AGCCATTGCAGCTCCAAACTGCANNAGGCAAGGCCAATTTTAACTTTTCAATTTACAGTC
GATTTTGAAGAGCTTTCTACATATCCGGTTATGTAAANTTCATATATGTATTTTTTTGGAA
ATCAGTTCTTATANAACCAGCCTCCGATTCAAGTCTTTAGGCTAAAATTTTATAGGTCC

AAGGGTAGGTATGGTTAACAATTTTGGAACCTTTTTGGTCCTTAAAGAAAAAGGTTGGAC
TTGTTTCAANATANTTTCTNTCTTACCTNGTGAAAAGGAAAATCNTTACTTTTTTCCTAA
TTAAAAAGGAATTCTTGTTACCCTTCGGGCTCCGCTTCTTAGGAAACTTAGGTGGGGATC
NCCCCCGGGGTCTTGNGAAGGNAAATTTTCGAATATTCCAAAGGCTTTTATTCGAATAC
CCCGGCTCGGAACCTCGGNAGGGGGGGGGGGGCCCCGGGGTACCCCCAAGCTTTTTTNGT

Sequence 237

GCAGTTTTGTGATCTGCAATGATTCTTCCCTTCGAGGTCAGCCCATTATCTTTAATCCT

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Sequence 238

CCCGCGGTGGCGCCGAGGTACGCGGGGATTGTGTGTGCAAAATCAGAGAGGGGTGCAAGGA TCCTGATTTTCAGGAGTTCAAGCGACAATGGCAGCCCAATACGGNAGTATGAGCTTCAA CCCCAGCACACCAGGGGCCAGTTATGGGCCTGGAAGGCAAGAGCCCAGAAATTCCCAATT GAGAATTGTGTTAGTGGGTAAAACCGGAGCAGGAAAAAGTGCAACAGGAAACAGCATCCT TGGCCGGAAAGTGTTTCATTCTGGCACTGCAGCAAAATCCATTACCAAGAAGTGTGAGAA ACGCAGCAGCTCATGGAAGGAAACAGAACTTGTCCGTAGTTGACACACCAGGCATTTTCG ACACAGAGGTGCCCAATGC

Sequence 239

CCGCGGTGGCGGCCGAGGTACCAGTTAAGTGAACAGCTCGTCTAGGTCTGCTTTTGTAAC ACCCAAATACAATTAGCACTTCTCTGCTGGTATTCCCTGGGCCGTCTTAATTATCTAG AG

GCCAGGAGGCAAAGCCTAGCACGTAACAAAGTATGTGCTTTGTAACTGCTGATTAATTCA GTTTCTTAACTAGGCAGAGCAGGTCATCAGTGTATCTAATTCACACTATTAATACACTG T

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Sequence 240

GTGNGTCTTTTATTAGCTATCANCGTTCATTTAACAGACAAAAAATTCAAGTTCAATG

Sequence 241

Sequence 242

TGTCTCAGATCAAGGAAAAGATGGCCAGAGAGAAGCTGGAAGAAATAGATTGGGTGACAT TTGGGGTTATATTGAAGAAGGTTACGCNACAGAGTGTGAATAGTGGAAAAACCTTCAGCA TATGGAAACTGAATGATCTTCGTGACCTGACACAATGTGTGCCTTGTTCTTATTTGGA G

AAGTTCACAAAGCGCTCTGGAAGACGGAGCAGGGGACTGTCGTAGGGATCCTCAATGCCA ACCCCATGAAGCCCAAGGATGGTTCAGAGGAGCGTGACTGTGAGTACCT Sequence 243

Sequence 244

TCCACCCACCTCGGCCCTCCAGTGTGCTGGGATTACAGGCATGAGCCACGGCACCCGGCCCTGGTTTGCTTTCTGAACCATGTCAATACAGTACCACCACAGTTGCTATCTCTTGAACAT

CTTTCATTAAAACATCACCGTCTAGTTTGAGAATACTTTTAAGCCTGCTGGCCTCCTTT

GGGCATTCTTTTTCTCTTTTCAGCACGCATCTTTCTTTTCCACTTACTCCGTAAGCTT

TAGCCATGTTTTACCTTGAGGGCCGAAGTTAACTTCAGCGGGAGTGAACGACAGGGGTGG GCTCCACTTTATCCAGTGCACTCGGAAGCCGGAGGGCCCCCACCAAAAAGAGCAAGGGGA ACCCTC

Sequence 245

Sequence 246

GCGCCGTGGGGATCAGCGTAGGTGAGCTGNGGCCTTTTGCGAGGTGCTGCAGCCATAGC
TACGTGCGTTCGCTACCGAGGATTGAGCGTCTCCACCCATCTTCTGCGCNGNCACCATCT
ACATAATGAATCCCAGTATGAAGCAGCAACAAGAAGAAATCAAAAGAAGAATATAAAGAA
ATAGTTCTTGTCCCAAAGGAAGGAAACTCTTGAAGGATTGAATTTCAGCCCTTCTTGCAT
CTTGGGATCTCTTGGTTGGGAAACCGAAGGAAANAAATNGGAAGCCTTGTCCCGCAAGNG
CTTTGTCCANANAAAGGGGAAAACCATTCTGGGGAATGGACCCACCTTTAAACCATCTAC
CAAACCTTCCAAGCCCCTTGGGGGGGTNTATTTGGTCCCCAACACAAAAAAATAGAAGTA

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Table 1

Sequence 247

AGACTGTCTCAGATCAAGGAAAAGATGGCCAGAGAAAAGCTGGAAGAAATAAGATTGGG TGACATTTGGGGTTATATTGAAGAAGGTTACGCCACGGAGTGTGAATAGTGGAAAAACCT TCAGCATATGGAAACTGAATGATCTTCGTGACCTGACACAATGTGTGTCCTTGTTCTT AT

CGGCCGGAGTGATGCCATCTGCAGTTTTGTGATCTGCAATGATTCTTCCCTTCGAGGTCA
GCCCATTATCTTTAATCCGGACTTTTTTTGTGGAGAAACTCCGACATGAGAAACCTGAGAT
TTTCACTGAGTTGGTGGTCAGCAATATCACAAGGCTCATCGATTTACCTGGAACTGAGTT
GGCTCAGCTGATGGGGGAAGTGGACCTTAAGTTGCCTGGCGGGGCTGGCCCAGCATCAGG
ATTCTTCCGGTCTCTCATGTCTCTCAAGCGAAAGGAAAAAGGAGTGATATTTGGGTCCCC
ACTGACGGAGGAAGGCATTGCCCAGATATACCAACTGATTGAGTATCTACACAAAAACTT
GCGAGTAGAGGGTTTGTTTAGAGTACCT

Sequence 251

TGGCGCCGAGGTACCAGCACAAACCGGGCCAGCCTCCTAAACTGCTCATTTACTGGGCG TCTACCCGGGAATCCGGGGTCCCTGACCGATTCAGTGGCAGCAGGG Sequence 252

GTGCACATGCACACACACAATGGGTGAAACAATTCTCACCATACCAAGAGCCACCGCGC CCTGCCGAGAATTTGCATTTCTAACAAGTTCCCAGGTGATGCTGACACTGCTGGCTCATG GAACCACTGCTGTAGTATTTTCCAAATTATCCTGATTCTAAGAACCACCTATGACCTGT

CTGTTTTTCTGTGGTTACTGGCTCATGTCACATAAATTCTTTTAGGATTCAAACATGT T

TGTGATATTACTCAGTATTTACATCTTGCTTTTACTGCAGCATGATGGAAAAATTAACC

CAGGTATATCATAACAAAAAGAACATGAGTTACCATTTTTCACAAAGTTCAGATATATT

AAATTAGCCTATTTAATCTTTTTTTTGGGT

T

Sequence 253

Sequence 254

CTCACCGCGGTGGCGGNCGAGGTACTCATGGNTGCTGNAAATCATGGCACGCCCGTTCTG CAGGGNTNTGCTTAGCCAGGCTCCTNTGAGATCTGGCTATTNTGNCTTGTGGATNNTCAG TCCCCGNGTACCTGCCCGGG

Sequence 255

CTCCCGCGGTGGCGGCCGAGGTACGCGGGGATTGTGTGCAAAATCAGAGGGGGGTGCAA
AGATCCTGATTTTCAGGAGTTCAAGCGACAATGGCAGCCCAATACGGCAGTATGAGCTT
CAACCCCAGCACACCAGGGGCCAGTTATGGGCCTGGAAGGCCAAGAGCCCAGAAATTCCCA
ATTGAGAATTGTGTTAGTGGGTAAAACCGGAGCAGGAAAAAGTGCAACAGGAAACAGCAT
CCTTGGCCGGAAAGTGTTTCATTCTGGCACTGCAGCAAAATCCATTACCAAGAAGTGTGA
GAAACGCAGCAGCTCATGGAAGGAAACAGAACTTGTCGTAGTTGACACACCAGGCATTTT

Sequence 256

Sequence 257

AGCTCCCCGCGGTGGCGGCCGAGGTACTCTGACTTGCAGGGCCCAAGACCGGCCTTGCGA GCGTCGTTGGCTGATGGGAGTAGAAGCCACAGAGAGTCTTCCTCTTGGAGGTACAGTCAA TTCTGAGGTTTGGGCGTCATAGACTAAACCCAGAAAACAGAACATTGGGAAGTCTTCGGA ATATTCTCTATCTTCTTCACCAACGAGTAAGACCGTTTTG

Sequence 258

GGCCACGTGACCGACGCCAACATNGCGGCGCCCAGTGGCGTCCACCTGNTTTTCCGCAGA GGTTCTCATAGAATTTTCTCTTCACCACTCAATCATATCTACTNACACAAGCAGTCAAG C

AGTCAACAAGAAGAAATTTCTTTTTTCGGAGACAAAGAGATATTTCACACAGTATAGTT TTGCCGGCTGCAGTTTCTTCAGCTCATCCGGTTCCTAAGCACATAAAGAAGCCAGACTAT GTGACGACAGGCATTGTACCTGCCCGGGCGGCCG

G

Sequence 259

Sequence 260

TTCGGGGTNCGGTTTCNGGGCTTGNCGGGGCGNAGGCCGGGTAATNCAGCCTTCAACTTC AAAAGGGCNGGGGTAAANTAACNGGGTTTATTCCCCACCAGGAAATTCAAGGGGGAATA NACCGCCANGGGGAAAANGAAACCATGNTGGAGCCAAAAAAAGG

Sequence 261

TGTGTTGAAAAATTGTTATCNNNCTTCACAAATTCCACACACACATACCGANGCCCGGNNA GTCATAAAGTGTAAAAGCCCTGGGGTGCCTTAATGTAGTGAGCTAACCTCACATTAATTG CGTTGNGCTCACATGCCCGCTTTTCCAAGTTCCGG

Sequence 262

GGGCGGCCGAGGTACCCGATAGAACATGGCATCACCAACTGGGACGACATGGAAAAG
ATCTGGCACCACTCTTTCTACAATGAGCTTCGTGTTGCCCCTGAAGAGCATCCCACCCTG
CTCACGGAGGCACCCCTGAACCCNAAGGCCAACCGGGAGAAAATGACTTCAAATTATTGT
TTGAGACTTTTCAAATGTCCCANGCCCATGTATGTGGCTTATCCAGGCCGGTCGCCTGTC
TTCTCTTATGCCTCTGGNACGCACATCCTGGCATCTGAGCCTGGACTCTTGGAGATNGGG
TGTTCACTCCACAAATTGTTCCCCCATTCTTATNGAGGGGGGGCTATTGCNCTTGGCCCCC
ATGNCCNATCATTGNCNTTCTNGGATTCTGGCCTGGCCCGANGAATCTTCACTTGAACTA
CNCTTCATTGGAAANNATCCCNTGGACCTGGAANGCGTGGGGCCTAATTTCCCTTTCGGT
TTACCTAACCTGGCTTGNAAGCCGNTGGAGGAATTGGTTCNCGGGGGACCAATTCAAAAG
GGAAGAAAANCTGG

Sequence 263

Sequence 264

CGTGCGGATCTTCTTTTTGNGGCTTCCTTCANGGGGTCAANAAAACCCTTCTNGGCC TTTAAAGCCTTCGCTTTGGCTTCAGCTTTAGGAGGGGCAGGAGCTTCCNCCTTCGANNTC GGCGCCATCTTGNGAAAAGCCCCGCGNACCT

Sequence 265

AGCNNCCCGCGGTGGCGNTNGCCNGGGCANCCCGCGGGGGTGGAAACCTCTTCAGCATTN
GCTTNNNNTCAGGGGGCTAAAAAACCCANCAACCGGGACCCCAGCTTTTCAGAACTGCAG
GGNAACAGCCATCATGAGNGAGGGCACCAAGAATTCCCTGGAGAAAATCCTTCCACAGCT
GAAATGCCATTTCACCNGGAACTTATTCAAGGAAGACAGNGGCTNNTNGGGANCGNGGGG
ATAGAGNGCGCAACCAGGGNGAAANNTTAAACACNGAGNNCAAAGNGGNCGNGGGNCCCN
CGGCCGCTCTAGAACCAGGGGACCCCCGGGCCCGCAGGGAANNCCGANANCAAAGCCNAA
NCGAAACCCGGCNACCNNCGAGGGGGGGGCCCCGGACCCCAGCNNNNNGGNCCCCCNNAA
GGGNGGGGNAAANGNGCCGCCNNGGCGGAAANCAAGGGCAAAGGCNGGNNCCCNGGGGG
NAAANGGGNANNCCGNNCACAANNNCCNCACAACAACCAAGCCCGGGAGGCANAAAAGGG

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Table 1

GAAAAGCCCN

Sequence 266

AGGTACTTTTCTAGGTATTGCTGGGCAAGATCCTTGTTGGAGTCCTCCTCTTTTGCTG

CCACTCAGAGGATAGGCAGAGCAGACTGGCAGACACAGCACAAGGAATGCAAGATGC ATCATTCTCACTGCCCTTACCTTCTTTGTCTACTGGGCTTCTCCCCGCGTACCTGCCC GG

GCGGNCGNTCGAGCCGCCGGGCAGGTACTACCTGNACCAACTTTTTCATTTGGGCATCAC
AAAGACGAGTCTTCTGATGTTCTATAAGCAATATGNTTATATGAAAGNCAGAAGTTTAGC
GAAAATTCGGCCTAAACAGNAATAAATGAAAATGGANTGGAAATCAAAGNNCTTAAATAG
AACANGAAGGCNGGGCACCGGNGGNTCACGCCTNGNANNCCCAGCACT

Sequence 267

TTTTAGCGGTGGTCGCGGCCGAGGTACGATACAATTCCGCTGAGTTAGATTCCAAATTC
TAACCTCTCCATCACACGCCCCAGAAAGGACAGTAGCCAGCTTCTCTGGATGCTTTGCCA
AGCAATTGACTCCATCACGGTGACCATCCAGCGAAGCAAGGAATGGTTTTGCAAATACTC
GTTCCAGTTTGGTAGCATTTAAAGCTCTTATATATTCTCGTGGGACCTCAAAAGGATG
TA

AAGCAGGATCATAGTTTCTTGGAACTCTCTGTAAGTCCAACTTGGTTTCGCGGACAT.AAT TGTCCGGATTCCGGCTCAGCATCTTCACCTTCATCTCGGTTGCTCTTC Sequence 268

NATTGGAGCTCCCCGCGGTGGCGGCCGAGGTACATTTATATGAAAGTCCTCACTTTCAGA
AGCAGAAAAGGAGTAACTAGATGGGCATTTTCTATACCAGCTAAGGCTTTAAACATAACA
ACGTCTACTGAACTATTTTCTACTTACTTTGACTGAATAAGCCAGTGAGATCGTGACTG

TGAGAAATTACTTCTTCTTGCACCTTATAACTTGACATTGTCAGATTTAATTTTT
Sequence 269

ATTGGAGCTCCCCGCGTGGCGGCCGAGGTACGCGGGATAGTGGAGGCACTGAAAGACCA
GCAGAGGCATAAGGTTCGGGAAGAGGTTGTTACCGTGGGCAACTCTGTCAACGAAGGCTT
GAACCAACCTCGAGCGCCGCCCGGGCAGGTACAGATGCACAGGAGGCCATAGGGTTTAG
GCAAAGGGGAGCACAAAAGTTGAAGATGAGGCGCTGCCACCAATGCTGGGACTTCAGGCC
AGGGGCAGGAGCTGAGGAAGCCACAAGGGAGGACATTTTCTGCAGTTGCTGAACCAGTAG
CAACCAGGTCCTGAGAAAGCCCTCTCTTGTGGAAGAATAACAGCCAGGAGGAAAAGCTTT
TCATTCTGCAAAGCTGGGGCAGAAAGTTCTTNTTTGAATCCCGCGTACCTCGGCCCGNTC
TAGAACTANTGGATTCCCCCGGGCTGGAGGAATTC

Sequence 270

GTCTTCGGNTTTTCTCTTTTTTCCAGGGCCTCCAANCCCTCGTCAGCCTCCCGC

GGGAGGCGNNAGCGAAGGAAGAAGAAGCCCAGCGCCCCCACG NACCT

Sequence 272

TTGGAGCTCCCGGGGTGGCGGCCGAGTCCCACAGTTAGCTGCAGCAAAACGCAGGCTGC

CTCAGGGAAAGGAGCCTGGGTTGATTAACTTGTGTCAATGTCCCACCCGTCCCAGGTA
ACATTTTGCCCCCTGAGGTCCGGGGTAATTTAATGGCTGCTGGACAAAACCTCCAAAGTT
CTTGAAAGATCAGAAATGATAGCTACCTGGAGTCCAGCTGTACGGCACTTGGCGTAAAGC
CGCTTCCCTCAAGAGTAACTACAATCTTCCCATGCACAAGATGATTAATACAGATCTTAG
CAGAATCTTGAAAAGCCCAGGAGATCCAAAGAGCCCTTCGAGCACCACGCAAGAAGATCC
ATCGCAGAGTCCTAAAGAAGACCCACTGAAAAACTTGAGAATCATGTTGAAGCTAAACC
CATATTGCAAAGACCATGCGCCGGAACACCATTCTTCGCCAGGCCAGGAATCACAAGCTC
CGGGTGGATAAGGCAGCTGCTGCANCANCGGCACTACAAGCCCAATCAATGAGAAGGCCG
GCGGTTGCAGGCAAGAAGCCCTGTGGTAGGTAANAAGGG

Sequence 273,...
TNTTAGGGNCAAACACGGCCCCAGCCCGCGNCCCAGNCNGNGCGAANGATTTTTTCAGGG
NGACAAAAACCCAGGNCACCCACCTGCCCG

Sequence 274

GCGATTGGAGCTCCCGCGGTGGCGGCCGAGGTACCGCGTCGATGCTATGCGCTCAGTTC
TAGTCAGAATAATCTTGCTCATCCTCCAGCTCCCCCTGTTCCACCAAGGCAGAATTCAAG
CCCTCATCTGCCAAAACTACCACCAAAGACTTACAAACGGGAGCTTTCGCACCCCCCATT
GTACGCGGGGAGGAGCCTGAGGAAGAGGGGCGGCGACGGTGGTGGTGACTGAGCGGAGCC
CGGTGACAGGATGTTGGTGTTGGTATTAGGAGATCTGCACATCCCACACCGGTGCAACAG
TTTGCCAGCTAAATTCAAAAAACTCCTGGTGCCAGGAAAAATTCAGCACATTCTCTGCAC
AGGAAACCTTTGCA

Sequence 275

CAGCGAGCACGCGTNTTCCGCAACCCGAAACCNCCTTACAGGAGGTTTAANACNCANCCC AACGGGGAGAGNGGGGGAAACATGANGACAGANNNNGGGGGAANGAAAATGGNACCTCGG CCGCTCTAGAACTA

Sequence 276

AGGTACGTTCTATTCCTGCTCCTATTAGGTCCTTCTCACCGCACCGGCCCTCGGTCGATT
ACGCCTCTCCAGTTCTGCTGGGGACGTTCTAGCCTCGCCCCANCCGCGTCGATCTTTATG
TTATACCGTCACTCCCAGTGCCCTAATGGAACTATCCCTCCACTACTCCCCCTGGTTCTA
CCCGGCTCCAGAGCCTCTCCCGGCCCACTAATTTATTCCCAAATTCTAGGCCCGGCCCCA
TCAAGCCCTCCCCGCGTACCTGCCCG

Sequence 277

GACTCCCGCGGTGGCGGCCGAGGTACGCGGGGGGGGCCCCTACCGTGTGCGCAGAAA GTGGAGGCGCTTGCCTTCAGCTTGTGGGAAATCCCGAAGATGGCCAAAGACAACTCANCT GTTCGNTGCTTCAGGGCCTGCTGATTTTTGGAAATGTGATTATTGGTTGTTGCGGCAT TG

CCTGCTGCGGAGTGCATCTTCTTTGTATCTGACCAACACACCCCTCTACCCACTGCTTGAAGCCACCGACAACGATGACATCTATGGGG

Sequence 278

TTCGCCCGGGCAGGTACTTTCATCCATAAAGGCCTGCAGCTGTTTCACTGATCCTTGCAG TTCATCCATCACCAACTCCATACAGTCAAAGACTTTGCTCTGGTTCTGTAATATTTTCT G

GTAGTCAGGTTTTGTATTAAGAACTTCATTCTGAGAAGACCCAAGATATGTCATAGGTTC
CACTTTGACCTCAGTAATTTTGGCCTCAGTTGATCCTCTGGACAATATCTCTTTAGCCT

CTGCTGGTAGTGAGGCAAGAGCTGATCCCAAGTCTGACGTTCTAAAGAAAACTTTGTTATGTATTCCTTCATCTCAGCCACAGATGCTTCCAAAGAAAAATCTGATGCTTTTCCATTTG

ATCTTCAAAACATTTTTGNAGAGTTCCATCAGTTTCCAGGCCGTCTGCAAAATGTTTCA

TTCTTCAGAAAGAGAAGATGCTTTGGCTCTAAAACTTTCAAGACTGAAGCCCTTAGTGGC

49

Table I

CCTTANGAAAGGGT

Sequence 279

GGAATCTTGCNCTGCATAGTTCAAACTAAAAAGAGAGAGAGTTAATTACCTGAAAAGCAAG AGAAAACAAGAAGGGGTAAATTTTGAACCAAGGGAAATCATTTAAGAAGTGTCTGGTATT TTTCAAATTTCTGTCAGTTGTTACATTTGTCATAAGTAAATGTTTAGGAATAAAGGATG G

Sequence 280

CCGCGGTGGCGGCCGGAGTNATGCCATCTGCAGGTTTTGTGATCTGCAATGATTCTTCCC TTCGAGGTCAGCCCATTATCTTTAATCCTGACTTTTTTGTGGAGAAACTCCGACATGA GA

AACCTGAGATTTTCACTGAGTTGGTGGTCAGCAATATCACAAGGGTGATCGATTTACCTG
GAACTGAGTTGGCTCAGCTGATGGGGGAAGTGGACCTTAAGTTGCCTGGCGGGGCTGGCC
CAGCATCAGGATTCTTCCGGTCTCTCATGTCTCTCAAGCGAAAAAGGAAAAAAGGAGTGATAC
TTGGGTCCCCACTGACGGAGGAAGGCATTGCCCAGATATACCAACTGATTGAGTATCTAC
ACAAAAACTTGCGAGTAGAGGGTTTGTTTAGAGTACCT

Sequence 281

CGCGGTGGCGGCCGAGGTACTTNTNACTGCCAGAGGCTGTGACGNTGTGTATTCNGAGAG CAGCCTTNCCTGCANTGATNCCATCCCGCAGGAATCNAANTTCTCCCTNGATACNGNGCA CTCTGCCTGTCTTTCCACNTTTCCCTTTCNCATTTTGCANTACACNGTTCACCACNCT GC

GGCCANTAATTTCAAAGGGGAAGGAATTANCCTTGGGNNAAAGGGGNTNGGGGGGGG Sequence 283

PCT/US00/33312 WO 01/42467 50

Table 1

CTTGGCTTTTCNCAAAGGTTCNAGGCTTTCCNATTCTCAATTCCCCCCCAAAAGGGGAGG **AAACCNTTTCC**

Sequence 284

GTGGCGCCCCGGGCAGGTACGCGGGGGCTCTAAGCTGCAGCAAGAGAAACTGTGTGT GAGGGGAAGAGGCCTGTTTCGCTGTCGGGTCTCTAGTTCTTGCACGCTCTTTAAGAGTCT GGAAAAACAATNACAATTTTATTTCCATTGGCCCAAGTNCTTGTNTNGCCAATTGNCAAG TGCTTTTTTTTGGGCCNTTTNTCTTACCCCTTTGCCAAACCAAGAAAACTNAAATNTTG Ν

CNACNCAAANCTTCCCTTTAGTTAGNCGCGGAATNTCNCCGCCCCCACAAGTAAGAAAGT TCNCNTGGNNAAGNCCCACCAAGANCCTTTTTTTTTGGCTTTTTTGCCAATTTGGTGA ΑĢ

GGAAG

Sequence 285

TGGCGGCCGAGGTACTAGGTCCCAAATGTTTCAACCGATTTTACCCTATGTTTTCAAGGG TATTATAGAAGGGGAGAGGTATCCTGTAGTGATGTCCACGTATCTTGGAGTTATGGGTCG TAATCAGGAGATGGACCAGCTTTTGGGAAATATGATTGAAATGTGGGTTTGATCGAATGG CATCTGATAATAGTGTTATCCAAGATAAATTCTGTGGGATTATAAACATTTCAGTAGAA

GCCTGCATGATGTCATGACGGGAAGATCCTGAAACAGGAAACTTATAAAGACTGTATGTT Sequence 286

GCGCCGAGTACCCGATAGAACATGGCATCATCACCAACTGGGACGACATGGAAAAGATC TGGCACCACTCTTTCTACAATGAGCTTCGTGTTGCCCCTGAAGAGCATCCCACCCTGCTC ACGGAGGCACCCCTGAACCCCAANGGCCCAACCCGGGANGAAAAATGAACTTCAAAATTA TTGTTTTTGGAGAACTTTTCAAATTGGTCCCCAGGCCCATGGTATTGTGGGCCTTATC CC

AAGGCCGGGTNGCCTGGTCTTCTCTTATTGCCCTTNCTGGGGACCGCCACAAACNTGGGG CAATTNGNTGGCCNTGGGAACTTCTTGGGAAAGAATTNGGGTNGGTCCAACCCCCAACAA AATGGNTCCCCCCAATTCTTATTGGAAGGGGGGCCTTAATTGGCCCCTTTTGGCCCCCC CAAATGGCCCCANTCAATTGGNCCGTTCNTTGGGGAATNCCTTGGGCCTTGGGGCCCGGG AAGNAATTCTTCAACCTTGGAACTTAACCCCTTCAATNGGAAAAGAATTCCCTTGGACCT GCCGGTTGGAANGNAAATTTGGTNCCCGGGGGAACCATTTCAAAGGGGGAGGAAAAAANC TNGGNGGTTTTAATTGTTAAAGCCCTTCTTGGGGNACTTTTTTGAAAAAAA Sequence 287

CTCCCGCGGTGGCGGCCGAAAACTGATCAGACTGTCTCAGATCNAGGAAAAGATGGCCA GAGAGAAGCTGGAAGAAATAGATTGGGTGACATTTGGGGTTATATTGAAGAAGGTTACGC CACAGAGTGTGAATAGTGGAAAAACCTTCAGCATATGGAAACTGAATGATCTTCGNGACC TGACACANTGTGTGTCCTTGNTCTTATTTGGAGAAGTTCACANAGCGCTCTGGAAGACGG AGCAGGGGACTGTCGTATCGGATCCTCAATGCCAACCCCATGAAGCCCAAGGATGGTTCA GAGGAGGTGTGTNTATCTATCGATCATCCTCAGAAGGTCTTAATTATGGGTGAAGCTCTT GACCTGGGAACCTGTAAAGCCAAGAAGAAGAAGAAGAAGCCGTGCACGCAGACTGTGAA TTTTGCGTGACTGTTGAGTACCTCCGGCCGCTCTAGAACTANTTGGATCCCCCG Sequence 288

GCCAAACGCTTCCGCAAAGCTCAGTGTCCCATTGTGGAGCGCCTCACTAACTCCATGATG **ATGCA**

Sequence 289

WO 01/42467 PCT/US00/33312

Table 1

GGACAGACTGGCTCATNGAAGACATTNACTNTGATGGGACCATTTNAANCNGATAATTTT
TCTCATAACCTGAGAGGAGTNATCCCACGAAGTTTNGAATNTTTGTTTTCCTTAATTGA

CGTGAAAAAGAAAAGCTGGAGCTGGAAAGAGTTTCCTTTGTAAGTGTTCCTTTATTGAA ATCTATAACGAGCAGATATATGATCTACTGGACTCTGCATCGGCTGGA Sequence 290

TGGCGCCCCGGGCAGGTACGCGGGCCCGTAGGAGCCTCTCTCCCTACTGCTGCTAC
ACAAAGACCCTGAGACTGACCTGCAGGAACTNAAACCATGAAGAGCCTGATCCTTCTTGC
CNTCCTGGCCGCCTTANCGGAAGTAACTTTGTGTTATGAAATCACATGAAAAGCCATTGG
GAAATCTTTATGGAAACTTAATTCCNCTTTTNATTTAAANCCAGGGNAAGNNAATATGT
N

AAAAATTCCNCTTTTTTATTANNTCCCCCTCTNCAATCCAAGNANGNATGGGGGAAGCNA GCNTAAAACCNCTNCNNATNANANAGNTNGGGTTTCTAAATAAGNAANCCTTTCTTTCTA AANANGNNCNTNGNGTTCCCACCGATATCTTTTATATATTNNGGGATTNANCCCCCCNTN TGNNAGNTTTATNTACTTTNACNNANGCATTTTTTTTTNNGTGNAAAAAACCCCGCNNT T

Sequence 292

GACATCAATCGACTGCCTTAATTCCTGGTCCAGCTGCCCGACCCTGACTCTCTNCCGCTC
TTTTCCTCAGGTCGAANGTTTNCTTTAAGATCACGCTGACGTCGGACCCACGGCTGCCGT
ACCTGCCCG

Sequence 293

Sequence 294

GCGGTGGCGCCCCGGGCAGGTACGCGGGAGGCACATTCTTTTCTACGTGAAGAGTTN
TGTAAACTGAACTTTGTTTTCAGNNCCGGCTCCAGCCATCCTCGGGTAGCTTGCCAATAG
ATGAATCCCACTCGTTTGACCCATGACGCTCCTTCTTTGCATNNCTCCCTCTTTCCCC
AC

AGCAGNGCATGTCCACCATACCACCTGAGAGTCTGTGGAATCTAATTTTCTGTNATACTT

CTTTCCTTACACTCATTTTCCTGTCTTTATTATGATAGTCTAACTTTTTCTCCTCAAAGG TATAGCTGCCTTGCTTTCATGAAAACACACTTTCCTATTGTGATTTATCAGAGGCCTTT C

Sequence 295

CNCGCGGTGGCGGCCGAAGAGCAACCGAGATGAAGGTGAAGATGCTGAGCCCGGAATCC
GGACAATTATGTCCGCGAAACCAAGTTGGACTTACAGAGAGTTCCAAGAAACTATGATCC
TGCTTTACATCCTTTTGAGGTCCCACGAGAATATATAAAGAGCTTTAAATGCTACCAAAC
TGGAACGAGTATTTGCAAAACCATTCCTTGCTTCGCTGGATGGTCACCGTGATGGACTCA
ATTGCTTGGCAAAGCATCCAGAGAAGCTGGCTACTGTCCTTTCTGGGGCGTGTGATGGTA
GAGGTTAGAATTTGGAATCTAACTCAGCGGAATTGTATCCGACCCT

Sequence 296

CCGCCGGGCAGGTACGCGGGGCTCCCTTGTGAGTAGACTATGCAAAGAAAAAGTGGGCCA CCATATCTGGAAACTACAGTCTATGCTTTGAAGCGCAAAAGGGAATAAACATTTAAAGAC TCCCCGGGGACCTGGAGGATGGACTTTTCCATGGTGGGCCGGAGCAGCAGCTTACAATG AAAAATCAGAGACTGGTGCTCTTGGAGAAAACTATAGTTGGCAAANTCCCATTAACCACA ATGACTTCAAAATTTTAAAAA

Sequence 297

Sequence 298

T

CGCTCGCCCTGAGCACTGTATTTATTTCCCCTTACTCANTCCCCAGGGGACTTCTTCCAA
GTAAGCCGACANACTTCTTGCNGGCCCCGCNCGCNCANTCTTTTCCCGGNCCGGCTTCTT
AGTAAACTTAGGTTGGGAATCNCCCCNCGTGGGCCTGGCNAGGGGAAATTTTCGGAATTA
TTCAAAAGGCCTTTATTCNGAATAACCCGGTTCNNACCCCTTTCNCAAGNGGGGGGGGG
CACCCCGNGTTAACCCCCAAGGACNTNTNTTTTGGTGTNCCCCCTTTTTAAGTTGGAAGGG
GGGTTTTAAAAATATTGGCCGACCGNCCTTTTGGGTCCGNTTANAAATTCCAATTGGGGG
GNTCAATTAAGGNCCTTGNTTTATTCCCCTTNGTNGTTGGAAAAAATTTNGTTNTAAAT

CNCCGNCNTTTCAACNAAAATTTTTCCCNANNCAACCAAAACCNAATTAACCNGAAGNCC CCCGNGGGGAAGNCCAATTAATAAAAANNTTGGTTAAAAAANGGCCCCTTGNGGGG Sequence 299

TGGCGGCCGAGGTACTTCTGTCTTCCAGTTTTCCACTTCAAACTTCTATCTTCTCCAA

TGTTTNATCCTACCACTCCCAATTAATCTTTCCATTTTCGTCTGCGTTTAGTAAATGCG

TAACTAGGCTTTAAATGACGCAATTCTCCCTGCGTCATGGGATTTTCAAAGGGTCTTT

AATTCACCCTTCCGGGTTTTAAATCCTCTTTTTTTAAAAAGAATCCGTCCTTTCAAAAAT

TATNTTTAAATTCACCCTTACCAACCTTTTAAAACCTAAAAACCTTTAAAGGCTTGTTT
TAAAGGTCCACCCTTTCATTTTTTAAATCTAAAAAAGGCCATTTGGCCCCTTTCTAATT
T

GGGNTAATTNAAATTCCGGGGGCCTCTTGTTAGGTACCCTNTTCTCTTCAAATTTTTAT

Ċ

CTTTTTTAAAAATTACCATTTTTTTTTTACCTTCCCATTGAAAGGAAAGGCCTTTNCAT
TCTTTCAAACCCCTTCCCGGTTCAATTGGTTTTTTAAGGAAAAAACCCCTTTTTTNAT
TTCTTTTTTCCCCTTTCCCCTTCCAATGGCCCTTAANCTTTCTTTTCCTTNAAAGGGT
GCCTTCCAATTAATTTTTTTTCCTTCTTTTAAAAAAAAATTCCTTTTA

Sequence 300

CCTTCTTTTCATTGTAGCAATGATCTCAACACGTG

GA

Sequence 301

TCCCCGCGGTGGCCGGAGTGATGCCTCTGCAGTTTTGTGATCTGCAATGATTCTTCC CTTCGAGGTCACGCCCATTATCTTTAATCCTGACTTTTTTGTGGAGAAACTCCGACAT GA

GAAACCTGAGATTTTCACTGAGTTGGTGGTCAGCAATATCACAAGGCTTCATCNGATTTA
CCTGGAACTGAGTTGGCTCAGCTGATGGGGGAAGTGGACCTTAAGTTGCCTGGCGGGGCT
GGCCCAGCATCAGGATTCTTCCGGTCTCTCATGTCTCTCAAGCGAAAGGAAAAAGGAGTG
ATATTTGGGTCCCCACTGACGGAGGAAGGCATTGCCCAGATATACCAACTGATTGAGTAT
CTACACAAAAACTTGCGAGTAGAGGGTTTGTTTAGAGTACCTCGGCCCGCTCTAGAACTA
GGTGGATCCC

Sequence 302

TTGGAGCACCCGCGGNGGCGTTTTGGGACGCNCGGAACNGCAATGCTTCAGGACCCACA GGAGCGACTCTTTAAAGGGACCACAAAANCCGCACAGAGCTGCAAACAACTATACATGAT ATAATATTAGAATGTGTGNACCTGCCCG

Sequence 303

GNGGCGTTTTAGGGCGNAACGGCCCCCCATCATGGCGGACCCTAGAGAAAGGCTCTTAGG GGGACCNAAACCCGNNGCCCGAACACAAGGAGANCGACGGCCGCTCTTNAACCAGNGGAG C

Sequence 304

Sequence 305

NTTAAGAGCAAAGGCTCATGTTTGCCAAGTCTGTCCTTTTGTAACAAAAAACCCAGCAGC TTTATCAAGCAGAATTCCACCTGTATTTCTTAACTTGCCAGAGCTGAGTCTCATGGCC AC

AGAAGCAGGACAAAGAACATTTGCAATACAGTTGTATTTATAAAATTTTGTT
Sequence 306

54

Table 1

TTGCGGCATTGCCCTGACTGCGGAGTGCATCTTCTTTGTATCTGACCAACACACCCTCTA CCCACTGGTTGAAGCCACCGACAACGATGACATCTATGGGGCTGCCTGGATCGGCATAT Sequence 307

CACCGCGGTGGCGGTTTAGCCCGGCGCNAAATCACCATTATTCCCCTTTAGTCACCTCAG AGGCTTGTTAATGCTTTCTTTGTAATTAGGCTATATCTGGTATCTGTATAATATCTTCA G

TTCTTCTTTACCAGGGGTCTTACTCTGTTCTGAAACATGGCACCTCAGGCGGCTCCGGCAGCGCTGGACACAGGAAACTCCTGGGTCCCCGACTCCGGCTCTCCTNGACCCCCTCTTCGGTTAACTCCGCTTGTTTCTCTACAAAATGGCGCCGGAGGTCCCCCGCGTACCTSequence 308

Sequence 310

CACCGNGGACAAGAGCAGGNGGTNCTTGGGGGGNGNAAAACCCGCNCCGCGANGCAAGAGGCTCNGCACAACCACTACTNTNCAGAAGAGCCGGGNCCNGNCCCCGGGAAAAAGAGNGCGA

Sequence 311

CCTGAGGAAAAGCTCGCACCAGGNGGACGCGGATNNGGTANGGGGGGTAAAANACCCNCC CCAACAAGCCGCGGGGCAAAANGNCCNCGTACNTCGGCCGCTCGAGAACTAGCGNACCCN A

Sequence 312

CCCGCGGTGGCGTTTCCNGGCCAGGCACTTGGAGAAAGTATAGCAGCAAACAATGCCTAT TTTTNACAGGAAACAGAACANATACCCAGAAAAATGCCCTGGCAATCATCAAATCACAGT TTTCCAACATCAATAAAGTGTTTAACTCCTCATTTGAAAGATGGTGTTCCTGGATTGAA

ATTGAAGAATTAATAGAGAAACTTCAGTCTGGAATGGTGGTAANGGATCAGATTTGNGAT GNGAGAATATCTGACATAATGGATGTATATGAAATGAAACTATCCACATTAGCTTCCAAA GAAAGCAGGCTACAAGATCTTTTGGAAACAAAAACTCTAGCCCTTGCACAGGCTGATAGA CTGATTGCTCAGCATCGCTGTCAAAGAACTCAAG

Sequence 313

Sequence 314

Sequence 315

CTAAGCATATGGGGCTTACTTGGCCCCCCTATCAATTTGCNGTCAAAATAAATTAATT

AGACCTGTCTTGTTTTATGAAAAAGCAATGNGATAGTCTTTAAATTTATCTTTCTAAACA AGACACAAGTTTACACATTACCCANTTACAGNAACCCCTCTTGGTATTGTTTACCTAAA

GGAAGAAGTGTAGGAAAAACNGATATAAGTAGAGAGTTTATTTGGGCCAAGCATGAGGGT TACAACCCAACTGTATGGAGACAAGTTGGCCTGAACAATACACATTCTTATTAGCAACAG NTATAAGTAGGNTTTCAAAGAAAAAGAAGAAGAGGGCAGNTCCTAA

Sequence 316

TCGNCCGGGCAGGTACAGAGACCTNCTTACTTACCCCCCTTNTCCTTCGGCTGGAGCTCG GCGAGCGAGAGGCGCCGCTGGCGTTGGAGAGCGACGGCGCCCCCGCGTAAGCAGTGGN AACAACNCAGAGTAACGCGGGAATGAAGAATNTTAGGCGGGTGCACCCAGTTTNCACCAT GATTAAGGGTNTTTACGGAATAAAGGATGATGTCTTCCTTAGTGTTCCTTGCATTTTG GG

ACAGAATGGAATCTCAGACCTTGTGAAGGTGACTCTGACTTCTGAGGAAGAGGCCCGTTTGAAGAAGAGTGCAGATNCACTTTGGGGGGATCCAAAAGGA

Sequence 317

TTTCGCCCGGGCAGGTACTTGGAGAAAGTATAGCAGCAAACAATGCCTATAGACAACAGG AAACAGAACATATACCCAGAAAAATGCCCTGGCAATCATCAAATCACAGTTTTCCAACAT CAATAAAGTGTTTAACTCCTCATTTGAAAGATGGTGTTCCTGGATTGAATATTGAAGAA T

Sequence 318

ATTGGAGCTCCCGCGGTGGCGGCCGAGGTACTTTTATTGATGTTGAAGATGAGAAATCT CCTCAGACTGAAAGTTGCACTGACAGTGGAGCAGAAAATGAAGGTAGTTGTCACAGTGAT CAGATGAGCAACGATTTCTCCAATGATGATGGTGTTGATGAAGGAATCTGTCTTGAAACC AATAGTGGAACTGAAAAGATCTCAAAATCTGGACTTGAAAAGAATTCCTTGATCTATGAA CTTTTCTCTGTTATGGTTCATTCTGGGAGCGCTGCTGGTGGTCATTATTATGCATGTAT

AAGTCATTCAGTGATGAGCAGTGGTACGGGTGGGAATAGCACTACACTGTTCATCTAGCC TTGTAGAATAAGTCCCAGTGAACTGATATTCTGCAGAATCTTCACTGTTAT AT

Sequence 319

G

CCCAGATTGTTAAAAAGCTGGCCGTTATAAATGCCCATCTGCAGCAGCCGCCTGTAAAACCCGGAGAGCTATTTCTGGCTGATCAGAATAGAAGTGGTTG

Sequence 320

ACCCNCAGGAGACGCTCGNAGCCCCCGCGCTNNTCCGGGGNCAGAAAAACCCAAGAAGCG GCTCACGCCTTCCAGAGCCACATCATNTNTGGNCGAAANAGAAGCCCAGACNAGAGGAAG GNGNAGGAGGCCNGCAGGNACC

Sequence 321

CAAGCGGAGNNAACCGAAGAGGGGNACTTGGGGGGCCAAAAAACCCGGACCCAGGAGNNN CCNGNGNCCAGCGCNGCCGGTTCCGCCNGAGGGGGGCACNCCCCCGCCAAGGCNGGAGNG CAGCGGCACAANCCCNGCNCACNGCAGCCNNGANANNCNGGNCNCAGGNGACCAGCACCC NTGCTNTTTNTACNGGGAAGNNGCNAAGCNACCNGNCAANANAGCANACAAANNGAAACN GGGGGNGGNGAAGGANCNNAGAAGNNGGANGCCAGGAAANGGGANGAAGACCAAANGGGC CANGNNNCAGAACAGAGAGACCCCNGGNAA

Sequence 322

CTCCCGNGACGAAAACACAANNGNTTCTTNCGGGGGACAGAAAACCCAGACCCAGCTNCAGGGACAGCCTGGACTACTTTNTTTTCACACAAACAAACCTCCCCGCGNANNCTCCTGGGCCA

Sequence 323

GCCACACTCGCACCAGGTTGTCCGTGTAGCCAGCAAACAGAGTCTGGCCATCAGCAGACC AGGCCAGGGAGGTGCACTGGGGTGGTTCTGCCTTGCTGCTGCTGCCCG Sequence 324

AATAAAATAAGCATGTCTCCATCCTTTATTCCTAAACATTTACTTATGACAAATGTAACA ACTGACAGAAATTTGAAAAATACCAGACACTTCTTAAATGATTTCCCTTGGTTCAAAAT

TACCCCTTCTTGTTTTCTCTTGCTTTTCAGGTAATTAACTCTTCTCTTTTT

Sequence 325

ATTGAGCTCCCGCGGTGGCGGCCGAGGTACCATCAAGTTAAAAGCAGAAGATGCTTCTG GTAGAGAGCATTTAATCACTCTCAAGTTGAAGGCAAAGTATCCTGCAGAATCACCAGATT ATTTTGTGGATTTTCCTGTTCCATTTTGTGCCTCCTGGACACCTCAGGTAAATTCTCCT

AGAGCTCCTTAATAAGCATTTATAGTCAGTTTTTGGCAGCAATAGAATCACTAAAGGCAT TCTGGGATGTTATGGATGAAATCGATGNGAAGACCTGG

Sequence 326

Sequence 327

GCTCACCGCGGTGGCGGCCGAGGTACTTAAAACCAAATAAAAAGTGACATTTGAATTTCT TTTAAAAGGATTTCCGAGCTCACAGTCAGCTTGCGAGCCATTCTCCCGCGTACCAGCACA

AACCGGGCCAGCCTCCTAAACTGCTCATTTACTGGGCGTCTACCCGGGAATCCGGGGTCCCCTGACCGA

Sequence 328

CGCGTCCGCCCATCTCAGTGTCACAGACACTCCTGGGTTTGGAATTTTGTTGTTCTCT

Sequence 329

NAACTTTACAGGATGGCATTTAATACAGATATTTCGTATTTCCCCCACTGCTTTTTATTT
GTACAGCATCATTAAACACTAAGCTCAGTTAAGGAGCCATCANCAACACTGAAGAGATCA
GTAGTAAGAATTCCATTTTCCCTCATCAGTGAAGACACCACAAATTGAAACTCATAACTA
TATTTCTAAGCCTGCATTTTCACTGATGCATAATTTTTCTTATTAAATATTTAAAGAGAC
AGTNTTTTCTATGGGCCATCNTCCAAAAACCTGCTATGNACCATNCAACTTAGGTTCT
TA

CNTTTCCTGCCTTAAATTTNTAATGGAGNAANGGGTATTTCTTTTCAATTTTTAAAATTT GCATTTTTTGGGGGAATTATACCTTCCCACCAATCTTTTTGANTNTATTTTTCCTTTGG

CCTTAAATCATGAATTTTTTTCAAAATTAANAAGGTTNNAAAGNTTTAAA

Sequence 330

TAGAAATTCTCTTGTCTGGATCTTCTCCATCTTCATCTCCACTGTCTTCATGAACAGCA

CTTCTGGAATAGCCTGCATCTGGACACCCAGGTGCATGAGGTAACATGCGCAAATTTTCA AACAAACCGCTGGTTTATCTTTTC

Sequence 331

T

TGCCCG

Sequence 332

Sequence 333

CGCGGTGGCGGCCGNTCGGGCAGGTACGCGGGGACTCTGAACGTGCTAAAATGGGAAGGG AGGCGGTGTTTTGCTGATCTGTTAAATTCTTAGTGAAGTTTCCTTGATTTCCAGTGGCT G

CTGTTGTTTGAGTTTGGAGCAAAACTGAGGTAGTCCTAACATTTCTGGGACTGAA

58

Table 1

TCCAGGCANGAAAAAAAAAAAAAAAAAAAAAAAAAAAAAGGTACCT

Sequence 334

GATATTCATTGCTCCATCGATTGGATCCAGTCCTTGTTCAGAAAATTGTTTCAAGGCACT

TAAGGCTGCCTGAAAGCCTTGAATCCTTGCTAAATATTCCAGTTGTTTTGAAGGTTGT AC

CTCGGCCGCTCTAGAACTAG

Sequence 335

GCTCNCCGCGGTGCCGCCCGGGCAGGTACTTGACTGCTAACAACTTTCAAATTCTT
CTACTTACTCCCTCTTCTTCAGCTTCACATCTGGGAAAACTGATAGGGAAGCCTAGGTAG
GCCTACCTTTGGTGCCAGAGGGAAGCTCAATCCATGCAAGCCCCAGATAATATATGAGAA
CCTCCCCAACCTTACCCTACACCCCTCACCTCCCAATCCAAGCCAGTCTCCTTTCCCTGC
TTTCTCAAACCATGTTTGGACCTGCTTGGAAGCTCCCTCTCCCTAGAAAGCTT
CA

CAACATCTGAAGCAAATGTTGGGTGGGGGGGGTACCTCGGCCGCTCTAGAACTAGGTGGATC

Sequence 336

CTCCCGCGGTGGCGCCGCCCGGGCAGGTACTCATGAAGGAGATGGCCCCTTTGGGAGC
AACCAGAGAATCACTGAGATCCCAATGGAAACAGGAGGTTCAGCCAGAGGAACCGACTTT
TAAGGGATCACAGAGCTCACACCAAAGACCAGGGGAACAGTCAGAAGCCTGGCTTGCTCC
TCAGGCTCCCAGGAACCTGCCTCAAAACACAGGTCTCCACGACCAGGAGACAGGTGCTGT
GGTCTGGACAGCTGGGCCCCAGGGACCAGCCATGCGTGACAACAGAGCTGTATCCCTCTG
TCAGCAAGAATGGGATGTGCCCAGGCCCTGCACAAAGGGCCCTCTACAGGGGGTGCCACC
CAGAGGAAGGGACAGTCACGTCTCGCTGGCAACAGGGTGTTGCCCTGGGGCTATTGAAGA
GACCAAGACGCTCCTGGCTATTTTTTAAGTAGTTCTCAATTTTTATGGGNAAAACTNCA

GACCTTNTTCAGCCAGNAACAGCCCCAGATTCTTACAGGGGCCATTGGGCGGAAGGGACT CTTGGGAGCCAANGGGTTTTTTT

Sequence 337

CCGCGGTGGCGGCCGAGGTACGCGGGATAATCAAGGTGTACATCCCGGTGGCTGGACATG
CCCTCTTGGGCTTGGCAGATGCCAGTGGATCCATACAACTACTCCGCCTGGTGGAATCTG
AGAAGAGCCACGTGCTGGAGCCATTGTCCAGCCTTGCCCTGGAGGAGCAGTGTCTGGCTT
TGTCCCTAGATTGGTCCACTGGGAAAACTGGAAGGGCCGGGGACCAGCCCTTGAAGATCA
TTAGCAGTGACTCCACAGGGCAGCTCCACCTCCTGATGGTGAATGAGACGAGGCCCAGGC
TGCAGAAAGTGGCCTCATGGCAGGCACATCAATTCGAGGCCTGGATTGCCGCTTTCAATT
ACTGGCATCCAGAAATTGTGTATTCAGGGGGCCGACGATGGCCTTTCTGAGGGGCTGGGAC
ACCCAGGGTACCTGCCCCGGGCGGC

Sequence 338

Sequence 339

CGCGGTNGCGGCCNTCNTTTTTGTTTTTTTTTTTTTAATAGCTGAAGATTTAGATTTAT
TTGAAAACACTTAGTCTAATTTATATTAGGTGCAGAAAAATCACATTCAATAAACCACA

TTGTAGAAGAGACAGATAAGTGTGTTTGTCACATTTTCACACAAATATAATTTGATNTT

AATTAAGGGATGATGAATCNCAACCCCTTGTTAATAAATGATTTNTTCTCTCAGTAANT

Sequence 340

CACCGCGGTGGCGGCCCGGGCAGGTACGCGGGGGAGCGGGCCCTACCGTGTGCGCA GAAAGAGGGGGCGCTTGCCTTCAGCTTGTGGGAAATCCCGAAGATGGCCAAAGACAACTC AACTGTTCGTTGCTTCCAGGGCCTGCTGATTTTTGGAAATGTGATTATT

GCGGTGGCGCCCCGGGCAGGTACCAAAGAAGATGCAGTTAAAATACTGCCAGTTTTCCAAGAAATTTTGTAAAGTTGAACATGGCCATCTACTCTTGCCTTAAAACTTTTCTCACC

TATCTTCCTTTCCTATAATTAATTTATTTTAATCTACAAATTGACATAGGGCTAAAAGCT TCAATATTTTACAAAATATTAATTAATGTAATTGTTCCCAATTATTAGAAACTTTTTTCC ATTTTTCAAAATGTTTGCCAACTTCACACAAGTGTGTAAAAATAGGGCTCT Sequence 342

CCGCGGTGCCGACGTACAGGTTTAGTCTGAATGCACTGTCATGAAATTTAAACTTT CATTATAATACTGTTTTAAGAACTTACAGCATCTGCTTTACAAATGGTGTTAGCTACAT G

TCGACACAGCATCTTTAGCCAGTTTTCTTTTGGAAGTTCATCTGATGTCATCTGGAAAC

CCCGGGCGCCGCTCTAGAACTAGGTGGATCCCCCGGG

Sequence 343

CCCCGCGGTGGCGCCCGGGCAGGTACATCAGAGATGCTCACACCATTCTTTGAGTAGTTTTAAAAAACTCATTTTAACCACTTTTTATTCTTTGTATTCAAACCAATCACTGGCAATA

TTCTTCCCGTAAATTAATGGAAGGAAATGAGTGTCTGAGTTCTTAGAATCTCAAAAGGCA TGAGGATAAAGCTTTCCTGGAGATAATATAAGTGGTGGCAGGAAGATTTGGGAGCCAGAT GATACTCTTTTCCTCTTAGAGAAACTCTGTGGAAGCTCTGCCTATACTGTGGGAAATAAA TTCTAGACGCTGGCTTCTTTCTGTAGTAAACATGTGGGCCCTTTAAAATGTTGAACCA AA TACAGAGGCTTCAGAGATGAAGAAACAGTTCTTACCCTAGTGTTGCTTAGAATCTAGTAG TAGTAAGTAATAATTACTAACATATGCATTTACTATATAGGCAATACTAGGGTAAATATT Sequence 344 GG GGGAGTTAAATAAAATAAGCATGTCTCCATTCTTTATTCCTAAACATTTACTTATGACA ATGTAACAACTGACAGAAATTTGAAAAATACCAGACACTTCTTAAATGATTTCCCTTGG TCAAAATTTACCCCTTCTTGTTTTCTCTTGCTTTTCAGGTAATTAACTCTTCTCTTTTTA GTTTGAACTATGCAGTGCAAGATTCCTCTGTAGTCTTTCCAAGTGGAAGGGTATAAAAAA AAAACACTTTATATTATGCCAGGTGAGGTGTCAGAACCCTGGCATCGGAAAGTGGTTGGC TCACGGGTCATAGGGTAGTAAGAAGAATTTACAGAAGACAGTATAGGTTCGAAAA Sequence 345 AGGTACACTGCGGCGGGGGCAGAAAAGCTGCAAGGAACAGAACCAGCAATGCAGAAGCTC CTCGAAGGGCCACCATCATCCTGCAAAACACCAAGCAGGGCAGTCTCTTATGCTGTGGCT CTTCTCAAGGATGTCTCAAGGGCTCCGGTGGTGCTCTCCTGCTCTATCCGCTGCTGTGGC AAATCCTCTAAAAACAGCGTTTTGCACAGCAGAGAGCAAAGTCCGCTTGTTATTCCACCC GATACGTGAGCTCAGTTTGCCAGCTAGTGATCAAGTCCAGCTGTTGGCAAGTTGGTCCCT GAGGCCTTGTAGACTGACCTGTGGCAGAGAGCTCCCTGGGTCCAGCATCTGTTGCCCTCA CCCTTGACACATGCGGACCCTCCCCAGGC Sequence 346 GAAAGACAAGTCTGAATGCTCCACTTTTTCAATTCTCTCCCATTCTTCAGTAAGTCAA TTCAATGTCGGATGGATGAAACCCAGACACATAGCAATTCAGGAAATTTGACTTTCCATT CTCTGCTGGATGACGTGAGTAAACCTGAATCTTTGGAGTACCCATTCCCTTGATGTCTAC AATATCACCTTTCTTATAGATTCGCATATATGTGGCCAAAGGAACAACTCCATGTTTTC AAAAGGCCTAGAGAACATATATCGGGTGCCTCTCCTCTTTCCCTTTGTGTTCGTCATT **GGCGAATTACTGGAAGATG** Sequence 347 AGCTCNCCGCGGTGGCGGCCGCCCGGGCNGGTACCACNGCCCAGCTAATTTTTTTATGTT TGTAGTAGAGACGAGTTTCACCATGTTGGTCAGGATGGTCTCAAACTCCTGACCTCAGGT GATCTGCCTGCTTCGGCCTCCCAAAGTGCTGAGATTAGAGGCATGAGCCACCATACCTGG CTCTTTTGCTTCATCCATCCCTTAATTTCTTTGCTGGAGCATTTTAAAGCAAATATCAG Α CATACCCTTTCACGCCTCACACTTCAACATGCGGCTTGTTGAAATTCGTGCTCCACTCCA

GCAACTGCTTTCAATCGGAGTTCCATCCTCCGCCGCAGTATGCCCTAACGCAAGCGTTAT CTTCAGAGCTACCACCAGGNTTCCGAAACTTTTTCGGNGGGAGGCGCTTTNGCCACCACC

PCT/US00/33312 WO 01/42467 61

Table 1

TNGCCGGGNNAACGGNTNGCGTNAAACCAAACCTTTGAACGGCCAGNCCCCCGNGGTAC CTTNGGGCCGGTTTAAAAACTAAGNNGGGGATNCCCCCCGGGCTGGCAGGGAATTTCGAT ATTCAAGCTTAATCGATACCCGGCGACCTTCGAGGGG

Sequence 348

ACTCCCGGGGTGGCGGCCGGCCGGGCAGGTACTTGACTGCTAACAACTTTCAAATTCTT CTACTTACTCCCTCTTCTTCAGCTTCACATCTGGGAAAACTGATAGGGAAGCCTAGGTAG GCCTACCTTTGGTGCCAGAGGGAAGCTCAATCCATGCAAGCCCCAGATAATATATGAGAA CCTCCCCAACCTTACCCTACACCCCTCACCTCCCAATCCAAGCCAGTCTCCTTTCCCTGC TTTCTCAAACCATGTTTGGACCTGCTTGGAAGCTCCCTCTGCTCTCCCTAGAAAGCTT CA

CAACATCTGAAGCAAATGTTGGGTGGGGGGTACCTCGGCCGCTCTAGAACTAG Sequence 349

CCCGCGCTGCCGGCCGGAAGGACGACGGTGCTGTGTGTATGAAGAGGCAGTGAA GACTCTGCCAACAGAGGCCATGTGGAAGTGTTACATCACCTTTTGCTTGGAAAGATTTAC TAAGAAGTCAAATAGTGGGTTCCTTAGAGGGAAGAGGGTTGGAAAAAACCATGACTGTATT CAGGAAGGCACATGAACTGAAGCTTCTGTCAGAATGCCAATACAAGCAGTTGAGTGTTTC GTTGCTGTGTTATAACTTCCTGAGGGAAGCTCTGGAAGTGGCAGTAGCTGGAACTGAATT **GTTTAGAGACTCTGGGACAATGTGGCAGCTGAAGCTGCAGGTGCTGATCGAGTCAAAGAG** CCCTGACATAGCCATGCTTTTTGAAGAAGCCTTTGTGCACCTGAAACCC

Sequence 350

CTCCCGCGGTGCCGCCCGGGCAGGTACCCGTGCTAAAAGACTTTTAGTTCGGCTCT CCCAGTGTTTTTTTTCGTCGATTTGGGCACAGAGTTTCCTGGTTCACGTGGATGTGA GG

ATCCTTTACTCCAGATCGCCAGCCAGTTTTTGTTTTTTTCCTGCGTTGCTGAGAGT.CT

GGTTTATTCATCACCACGGTGGATCTTAATTCCATATCCCTGAGGCCACTGCAATGAGG CAGAGGAGTGTGCTCCTCATGAGAAAGGACTGGAGACCGCCCCAGAAGAGAACGTATC CATGTACCT

Sequence 351

CCCCGCGGTGGCGGCCGCCGNNCTGGTACTTATAATGCCNNNNNTTNCNGGNTGTGAAT GGATTACANTGTATCTTTTCAGGGAAACCTATTATTATCAATGTGACTCCACNGGGGGAG TCCATGGTGATGATGAGGAGGAGGATGATGATGATGAGACACCTCTAAACTTGGAAC AAGTTTAAGACTTTATGAGAGAAGAAAAAAATCACCAACAAGAATTGTTTGAGGAAAAA TCATAACTATCCTGTGTTCATTTTTTTTTTATAAACAATAAGAAAAAGTTGTTGGATTT TTTTTAATGATTTCTTTTTTGGGGGAGGGAATTTTTGTTGCAGTTTTATGGTGGAAAA

GCAAAAACCAGAGCCAGGTGCATAATCTTGTAATCTGTGGATATCCCTGGAGCAGGACTG ANCCT

Sequence 352

NCCGCGGTGGCGCCCCGGGCAGGTTGGTAACAACGCAGAGTCCCGGGAAGCAGTGGT AACAACGCAGAGTCCCGGGAAGCAGTGGTAACAACGCAGAGTCCCGGGAAGCAGTGGTAA CAACGCAGAGTCCAGGGAAGCAGTGGTAACAACGCAGAGTACCCGGGGAAAAAAGGCAAA TAGAATGAGAACCATATTATGTACCT

Sequence 353

CTCCCGCGGTGGCGGCCGAGGTACACCCAGCTTTGTCTCCTGGCCCCAAATCTCCTTTTC CTTACTTTGGGCATTAACTGCTGTTGAGGTCTCACAGCCTGATGGTCATTATCCCTGA AT

GGCATAAATCAACAGGCTGTATGAGCATTGTGAGATTCTACATGAGGGAGAGCATTTC

AAACCCATGACAGATGAGAGAAGTTAGTACACTCTCACTGAACTGGGGATGTTTGACTTA **AAATGATGGACAATAAGATAGTGAGCAGTAAGTGTGCTCTAGGCTAGGCTACGAGAGGCC** ATGAGCTCCTCATCTCTCTGTTCTGAGCTCTCTGATCCACCGCACTTGGGGCAGGGG GTGCATTCTCTGTGCCTCTCCTGAGTCTACTTTCTGCATCATTGGGTTCTCCCAGCTC AC TTCCATAATGTCCTCCTAGGCTGCATTGGAATTTGTGTGTTGTCTAGACCCATGGCCAAN Sequence 354 GC CTTTAGAAGGTTAAAATGCCAATATAAAGCTAAAACAGTAATCATCAGAGACAGCTCTAA TTCATTCTGTTACTCCATTTTTTTCTCTCCATATTGTATGCCTGAAGTGAGCTGATGAG G GGCAGAAAGATCATACAGTTAGGAATGAAGACATCAGAATGTTCCACTAAACAGATATTT **AACTAGATACTATTATACTACTAAGAATAGCAAGAATGTCTCTCAATTCTGGGAATTTC** CCTAGCTCACACAAATGAAACGCACATCTCCATGAATGCTTTCTAATAAATGCTTCCAGG ATAGTATCATAAACAAAGTCAAAATTAAGAAAAATCAC Sequence 355 GCTCCCGCGGTGGCGGCCGGAACCGCCATCTTCNAGTAATTCGCCAAAATGACGAACACA AAGGGAAGGAGGAGGCACCCGATATATGTTCTCTAGGCCTTTTAGAAAACATGGAGTT GGTCCTTTGGCCACATATATGCGAATCTATAAGAAAGGTGATATTGTAGACATCAAGGGA ATGGGTACTCCAAAGATTCAGGTTTACTCACGCCATCCAGCAGAGAATGGAAAGTCAAAT TTCCTGAATTGCTATGTGTCTGGGTTTCATCCATCCGACATTGAAGTTGACTTACTGAA G AATGGAGAGAATTGAAAAAGTGGAGCATTCAGACTTGTCTTTCAGCAAGGACTGGTCT TTCTATCTCTTGTACCT Sequence 356 GTTGAGCTCCGCGGTGGCGGCCGAGGTACCTGACTGTGGCTCAGATCTGCGTCGCAGCA GCGAGAGAGAAATCACTCCATATCCGATGAGAGGAAGGGTGGCACAGAGATGGTGTCTA CAATTAGAGACATTTCTGACTCCACCTTAGCCTAAGCAAACTTTATGTACTGAGTAACA TTGAAGGTTGTCTTTTAATGGTGGGGGGTGTTTTTTCCTTTTTAAACTACAGTGCTTGC CAAGAGAGGGAGGGACTCAGAAAAGGTTAGGGCAGGTGAGGGAGACAGTAGATGGCCTGG GATGACTTGAGTCCATCATACTATTGCTTGGCAGGTGTCCTCCCCCATGTTTGATTCA TTCCATGAGTGACCTACCTTTCCCCAGGAATGGGACTGAGAGGGTAGTCTCCAGCAACTC AGTCTGCACAGGGCTCCCCGTTCAGGCTGCCTTT Sequence 357 TCCCGCGGTGGCGCCCCGGGCAGGTACCATCTGACTTGGCAATGTAACGACACACA CGTTACGTGTGGGGCACAAACGTGGAATATTAGGAGAGAGCTGGTTCCAGCACCAAATCC AGAGTCACTCGGGGAAGGAGGTATGGTGGCAACACTTTATGCTTAATATTCAATTCTGCT ----CCAGTAGAACATGGTACCACCATTCTTCCAAGTTCAAAAATTATCTTTGATTCATTTTG Т TCCCCATTCCTCTAATATGTCACCAATTCTGCTGATACATTCTTTGTAATCTCTCCATC Т ATTITAATCTGTTATTCACCTGAGCTACACAAACATTCATCTGCACAAGGAGTATTCCA

GTGCTGAAAAGACAGAGGATTAAGCCCTCCTTGTGGAGGCATTCACAGTCTGGTTTTAAT

ACACAAACCAACTATAATACACAGGGATAAAAAAAGTAGAGGCACTTATTGCATACC TGTACCT

Sequence 358

TTGACTCCCGCGGTGGCGGCCGAGGTACTTTTCTAGCAGTCTGTGGCCACTCCATACTC AGCTGAAAACACTGTTTCAGCCCCCTCTCTGGTGACCTCAGCCTTCTCCAGGTGTATCTC TTGATGATCTTGGAGACCAGCAGCCACAGCTGCTGCTACTCCTGCAGGAGACTGTCAGGC TGTGGTGGGGGGCAGGGGTGTTGGAGGAGAAGTTGAAAATCCGTGTTCTCTGTCCCTC TGCTCCTCCATCTTAGCTTCTGGAGGAGAGTTAAGGCACCAAGGGCA

Sequence 359

NTTCCCCCGGGGGGGNNGGNNTTTTTTTAGGGGGGAAANGGNGGTTTANTCCCCCCN NNGGNAAANCCCCCCCNNTTTTTNTTTTTTGGGGNNGGGAAANATTTTTTNGGGGGTGCN CNGGNGNNTTTNNNNANAAANNNAAAACCCCCCNTTTTNNTTTTTTTAANANACCCNCNNN AANNGGGGGGTTTTTTTTTTTTTAA

Sequence 360

GATTGAGCTCCCGCGGTGGCGGCCGAGGTACTTAAAACCAAATAAAAAGTGACATTTGA ATTTCTTTTAAAAGGATTTCCGAGCTCACAGTCAGCTTGCGAGCCATTCTCCCGCGTACC AGCACAAACCGGGCCAGCCTCCTAAACTGCTCATTTACTGGGCCGTCTACCCGGGAATCC GGGGTCCCTGACCGA

Sequence 362

Sequence 363

GCTCCCGCGGTGGCGGCCGAGGTACTTAAAACCAAATAAAAAGTGACATTTGAATTTCT
TTTAAAAGGATTTCCGAGCTCACAGTCAGCTTGCGAGCCATTCTCCCGCGTACCAGCACA
AACCGGGCCAGCCTCCTAAACTGCTCATTTACTGGGCGTCTACCCGGGAATCCGGGGTCC
CTGACCGA

Sequence 364

TNCCGCGGTGGCGGCCGAGGTACAACGCATGAGTCCCGGGAAAGCATGTGGTAACAACGC

Sequence 365

TGACTCCCGGGGGGGGGGGGGGGGGTACCAAGCACTGGGTAAGGCACTTTTGTGGAGCAT
TAGACAGTAACCCTCAAGGAGCTAGAGAACCGGATGGGAGACATGAGCGGTAATTAACTC
ACTTGTTCCCCAGAGTTTCTATTTGTTTTNTTTTCTTTTTCTGTGACTTATTTTCCTATT
TTCTTTCCTCCATGTAATTTTCACTATGGCCCAACTAATATAAACACCTGGAAATTACA
A

CCACAGTGTGGTTCTAATCNATGGGAGATATCAAGTAATTTTTTAGTAACCTGAATTTT G

AGGGACATITCTCTGTTTAAGCATGTATGCAAACTGATATGTAATCCTGANGGTCCCAAG

Sequence 366

CTCCCGCGGTGGCGGCCGAGGTACTTTGCATCCTTCAACCCAATCAAGCTGACACTCAG
TATTAACCATCACAAGGCGTGAGGACAGATAGCTGCATCCGCAAAATAGAGAACCAAGAA
ATAGTCCCACACCAAAGTCAGGATCAAATGATTCCTGGACAAGCCACCAAGTCAATTCAA
CTGAGAGAAAGAAGCCTTTGCACCAGTTGGTGCTGGAAGTTCTGGATATGCACCTGGATA
AGTGAACCCCCTCCGTCACCACACACACACACATTAATTTGAGATGGATTGCAAACATAAA
AGCTAAAACCATTAACACTTCTTGAAGGTAACATAGAATATTTTGTAATGTTATGATAG

CAAAAGTCTCTTAGGACACAAAAAAATTAACCATAAAAGAAGAAAATGGCTGGGTGCA GTGGCTCACACCTTTAACACCAGCATGTTGGGAG

Sequence 367

ACTAACCAAAG

Sequence 368

Sequence 369

TAAGTGCAATGGGGGAGTCATTAAGGATTTTGTGTAGATACAGCAAAAAGACAACAATCT TCAAGCCACAATGGCCCTCACCAGAACCCAGC

Sequence 370

CCCGCGGTGGCGGCCGAGGTACTTAAAACCAATAAAAAGTGACATTTGAATTTCTTTTAA AAGGATTTCCGAGCTCACAGTCAGCTTGCGAGCCATTCTCCCGCGTACCAGCAGAAACCA GGACAGCCTCCTAAGCTGCTCATTTACTGGGCATCTACCCGGGAATCCGGGGTCCCTGAC CGATTCAGTGGCAGCGGGTCTGG

Sequence 371

CCCCGCGGTGGCGGCCGCCCGGGCAGGTACGATTATTTTCAAACAAGCCTACGTCCCTGA CTAACCGAGTGGAAGGTGTGAGTGGCACTACAAATTCACAAAAGAACTGTAGCCTCAGAT AATCAAAGGAGAAGGTCAGATGCAATCACTGATGCATGCTAGTAATTCTCAAACCTTC GTTTTCAGAAACGATTGGATTTTCAGATAGATTTGCAGTAAGAGAATAACAAGTCTTTA

TTTTTCATCCCAACTTCTTCTTGCACATTTTTCTTCTAGCTATATTTAATATCTGTTC
TCCCCACACACTTGCTAATCTACATTTCACAATCTTCTTCACTTTCACTTTGTCTGCAA

GGAAATCTACCCTGGGACAGAANAAGCATCTCTTTTTTTTCCCCCCTGACCCTTGGCA

TTCCTCTCCCTTCAACTT

Sequence 372

GATTGAGCTCCCGNNCGCGGTGGCGGCCGCCCGGGCAGGTACGCGGGGATGTCTCTTGTC
AGCTGTCTTTCAGAAGACCTGGTGGGGCAAGTCCGTGGGCATCATGTTGACCGAGCTGGA
GAAAGCCTTGAACTCTATCATCGACGTCTACCACAAGTACAAGAGATAGAAAGACCAGTC
CTTGCTGAAAGACAAGTCTGAATGCTCCACTTTTTCAATTCTCTCCATTCTTCAGTA

GTCAACTTCAATGTCGGATGGATGAAACCCANACACATAGCAATTCAGGAAATTTGACTTTCCATTC

Sequence 373

Sequence 374

N

CTCCCGCGGTGGCGGCCGAGGTACGCGGGGAGAAGGAATGGAAACGCCTGGAGAAAGAG GATGAAATGACGGATGAAGCAGTTGGAGACTCTGCTGAGAAGCCTCCTTCTACTTTTGCC TCACCTGAGACTGCTCCAGAAGTGGAGACCAGCAGAACTCCACCAGCCTGTGAAACCACG AACCCTTCAATCAAGAAAAGACCTTTGATCAGGAGAAGACTTCTCGTCTCATTTCTGGGG ACACATTCAGGATTTCTCCAAAGCAGGTGAAGGTACCTGCCCG

TNNNNNNNNNNNNNNNNNNNNGGGGTNCCTTGCCCGGG Sequence 375

TCCCGCGGTGGCGGCCGAGGTACCTCAGCTGTTGATCTGTGGAGCCTAGGAATCATTTTA
CTGGAAATGTTCTCAGGAATGAAACTGAAACATACAGTCAGATCTCAGGAATGGAAGGCA
AACAGTTCTGCTATTATTGATCACATATTTGCCAGTAAAGCAGTGGTGAATGCCGCAATT
CCAGCCTATCACCTAAGAGACCTTATCAAAAGCATGCTTCATGATGATCCAAGCAGAAGA
ATTCCTGCTGAAATGGCATTGTGCAGCCCATTCTTTAGCATTCCTTTTGCCCCTCATAT

GCTGCTTCAAGAATACTAAAGCAACACTCCTGATATTAACCTACTACTCAGTTTTTGTG

GGCAAAAACAGNAGATCACATCCCATTTGTCTTTTGNGTTCTCTTTGGCTGNTTAAGCANC AANAGTTTAGCACTTTAATTCATTGCTCTACCAAATGGTTTAGTTTGGAAATAGGGGTG

ANGTGGACAAGAAGNTTTTGNTTTAATCCCTTCAAAGCCAATTNAACTTGGTTTTTGGT

TTAGGTNGAGGAGGGCCANGNANTNGTTCAAAGGTAGGCCTCAATGNAACCGTTTACCCCCCN

Sequence 377

GCGGTGGCGGCCGACGGAGGAGACGGTGCTGTGCTGTGTATGAAGACGCCAGTGAATGA CTCTGCCAACAGAGGCCATGTGGAAGTGTTACATCACCTTTTGCTTGGAAAGATTTACTA AGAAGTCAAATAGTGGGTTCCTTAGAGGGAAGAGGTTGGAAAGAACCATGACTGTATTCA GGAAGGCACATGAACTGAAGCTTCTGTCAGAATGCCAATACAAGCAGTTGAGTGTTTCGT TGCTGTGTTATAAC

Т

Sequence 378

TCCGCCGGGCAGGTACCAGGTGGTGAAACCAACTGCTGAACGCACAGCCTACCTCCTGT
ATTACCGCCGAGTGGACCTGCTGTAAACCCTGTGTGCCGCTGNTGTGTGCGCCCAGTTGC
CCGCTTNGTAGGACACCACCTCACACTCACTTCCCGNCTCTCTTTAGTTGGCNCTTTAGA
GAGAAACTCTTTCTCCCTTTGCAAAAATGGGCTAGAATGAAAAGGAGTATGCCNTTGGG
TTCGTGCACAACACACGCTTCCTGATTGACTCTAACTTTCCAAATCAAAATTCATTTGGT

GAAACANGACTTGTTTGCTTGGATTTTAGNAAAATACACAAAAACCCCATAATTNCTGAA ACAAATTGCTTGANTCCTGGAGATNAAGGAAAGNTGGGATTTNGATTCCCCAAGTCCTCA TTGCTTAAGTAGGAATAAAATCCTTGCACCCATGCNAACAACCAACTTNGTAAATTTNGG TGAAAAANTGAAAATTTTAANTCTTNTCCTTTAAAAAAAAAGAAAAA

Sequence 379
GAGGGACTGCTAGCCAGCCAATAAAATATAAACTCCATTTGTCTTAGTTATATAGAACTG
TGTTTCCAGCTTAGAAAAAGTCAAACCAATGACTTNTAGAACAANCTACTCTCATTTTT

ATTCAGCCTCTAGAACATGGAAGCTTTAAAAGTGAATTGGCTAAANAGGCAAGACCTTCT GAAAGTTAACATCTTAATGATTAAAAACAGTAAGTACGCACAACCGAAGCCGTAGAGTCA CACTTGCAACAAAAGGTTACAANTATTGCTAATGGGGCTCTGTCCGGTNCTGCTTGTCCA GCTGGACCATCTATTTCATCCCTCCTCCTCTTTGAGCTGTCATTTTAATTGC

Sequence 380

NCCGAGGTACGTTAGCTCATTTTCCCTTAAGCGGGTTGTGACGTACGNTGAAATTGCAAA CGCTCAAACTTCCAACACTTGCGTATACACTTGTAAACCCAGCTTTGNNAAGTGAGACAC GCATCAAAATCATGATGAACAATTGACCGGCTGCNTNGCAGTCAAGCAGTTGGGTTA Sequence 381

CCGCGGTGGCGGCCGAGGTACACCATGTGAAGACTGGACTTAAACAGCTACACCACCAGA AGCCGAGAGAGGGCTGGAACATAGCCTTCCCTTTGGAGGTAGCCTGGCCCGGNGGGCAC 67

Table 1

TGTGATCTCAGACTTCCAGCCTTCAGAACTGTGAGACAATATTTTATTGTTTAAGCCAC

TATTTTTTGGTACCTGCCCG

Sequence 382

GGCCCAGGCTGGAGTGCAACGACACGATCTCAGCTCACTGCAGGGCTNTGCCTCCTAGGT
TCAAGCTATTCTCCCTCCTCAGCCTCCCAAGTAGCTGGGATCACAGGCATGCACCACCAC
CNCCNGGCAAATGTTTTTTTTTGGATGTTTAAGNCNGACGTGGAGTTTCTCCATGTTGGC
CAAGGCTGGTCTCAAACTCCCTGACCTCAAGGGNGATCCACCNTGTCTCAGCCTTCCAAA
GNGCNTGGGGATTTATAGGCNATGGAACCAATNAACGCCCGGGCCGGCAATAAATTTGTT
ATACANNACTACCATGNAGTTAAATCTGCNANTANNATTGGGACCGAATGGTNTAATCCC
TTCNTACTTCTTTAAATTNTTCCCAANNGGACCTTCAATTAATAATAATAAAAAATTNGGA
TCCTNTTTTTTTTAAAATGA

Sequence 383

CTGCCGAGGTACTCACAGTCACNCAAATTCNGNGGGTGGNTACACGGCTCTCCATTCTTC
TTGTTGGGTTACAGGGTTCCCAGGNCAAGAGCTTTACCCATAATTAAGNGNNTTCTGAGG
ATNATCCGNTACATAAACNACACCTCCTCTNGAACCATCCTTGGGGCCTTCATGGGGGTT
GGGCATTTNAGGNATCCCTTACNAACAAGNCCCCCNTGGTGNCGGNCTTTCCCAGAAGCG
GCCTTTGGTGNAACCTTCNTCCCCAAAATAAANAAACCAAGGGACAACAACATTTGNGGT
CANNNGGTNACCGAAANGAATCAATTTCAATTTTCCAATATGCNTCGAAAGGGGTTTTTC
CCACTTATTNCACACCTTCTTGNGGGCCNNGAACCCTTTCTTTCAAATATTAANCCCC
NC

TTTTTCCCTTTTGAANCCTGGAAGAACAAGGTCTTGGAATCCAANTTTTTTCCGGGGN

NCTCCTAAAAAACTAANNNNGGAATNCCCCCCCCGGGCCTGCAAGGGGAAATTTCCNNTA NTCAAAAGCTTTAATCTNATTACCCCNTCCAACCCTTCCAAAGG

Sequence 384

AGACTGCAGGAGATGTGGGCCGTGCCAAAGAGTGGATGAGACTGTTGCTGAGTTCATCA
AGAGGACCATCTTGAAAATCCCCATGAATGAACTGACAACAATCCTGAAGGCCTGGGATT
TTTTGTCTGAAAATCAACTGCAGACTGTAAATTTCCGACAGAGAAAGGAATCTGTAGTTC
AGCACTTGATCCATCTGTGTGAGGAAAAGCGTGCAAGTATCAGTGATGCTGCCCTGTTAG
ACATCATTTATATGCAATTTCATCAGCACCAGAAAGTTTGGGATGTTTTTCAGATGAGT

AAGGACCAGGTGAAGATGTTTGACCTTTTTGATATGAAACAATTTAAAA
Sequence 385

GTACTCCGTCTCAGAGGANGGGATGCAAATCTTCGTGAAGACACTCACTGGCAAGACCAT CACCCTTGAGGTCGAGCCCAGTGACACTATCGAGAACGTCAAAGCAAAGATCCAAGACAA GGAAGGCATTCCTCCTGACCAGCANGAGNGTTGATCTTTGCCGNGAAAAGCACGCTGNGA AAGATGGGNGCCGCCACCCTGTGCTTGNACNTANCAACAATCCCATGAAAGGAGGTCTAC NCCTGGCACCCTTGG

Sequence 386

Table 1-

AACCATTTTTCAGATATAAAGAGAATTACTTCAAATTNGAGTAATTCAGAAAAAACTCA

GAATTTAAGTTAAAAAGTGGTTTGGACTTGGGAACAGGACTTTTATACCTCTTTTACTG

. AACAAGTACCTCGGCCCGCTCTAGAACTAGTG

Sequence 387

TCCTGTATTGCCTTTTTAATCTTGCTTGTTTAAGNACNTTTCAGGGATTGTCATCATTG

TCATCTGTAAAATTGTCAAGNACTAAGGTCCTAAACCTTAATC

Sequence 388

CCTTCCCNCCCNGCGAGNCCGCNGGGGAGATAAAAATATCACCAACATAATATANCACGG ACTAACCCCTAAACCTTCTGCNTAATGAATTAACNAGAAATANGGGGGGCAAGGAGNGCC ANAGCTAANACCCCCTNAACCAGACGAGCTACNTAAGAACAGGTA

Sequence 389

AGTACNCGGGGCTTTTCTCAGGCGGNGGCATGGCGGACAGGAGGATCCGGTGCANCGGN AGATTCACCAGGACTGGCCTAACCGGGAGTCGGCCGCTCTAGGGGN

CGCCGAGGTACGCGGGATGGGATTTCTGACCATTTGCCCTGCCTCTTGCAAAATAGGTCT
AATGGCAGGATGGTGTCATAATTAAGGCTACCAAGACTGCCCATTGTTCCAGGCTGGGCA
AATGGCAGGGGCAGACAATAGTGCAAAAAAATTTTACATTTTATCTTTAGAGTGTC

CAATAATAAATTCCTTTTCATGAATTCCCTTCA

Sequence 392

AGCGCGGGAGAGGCCGGTTTGCAGTATTGGGCGCTCTTCCGCTTTCCTCGCTCACTTGA CTCGCTGCGCTCGGGTCGTTCGGCCTGCCGGCCGAGNCGGTNATTCAGCTTCACTCAAAA GGGCGGTAATTACCGGTTTATTCCACCAGGAATCAAGGNNGGATAAACGCAGGGAAAAGA ACATGTNTAGTCAAAANAGGCCAAGCNNAAAGGCCAAGGNAACCCGTTAAAAAAAGGCCCG CGTTGCTTGGCGGTTTTTTCCATAAGGGCTCC

Sequence 393

NATTGGAGCTCCCGCGGTGGCGGCCGCCCGGGCAGGTACAGGACACAGGCACTCCTTTG TCTGGTAGAGAGGAGGAGGGGAAATGGAGCTATTCCAGGATACAAGGGATGGCACTGAGG GATGCATAAGTCCCCTGCCTCCCTTGTCTCAACATGTTCTCCTCTGCCAGCCCAGTCAGC

PCT/US00/33312

Table 1

C

Sequence 394

GTGGCGGCCGAGGTACCAGGCTGGCGACAGGTGCTACCAGGAGTGGGCTGAGGGGAGAAA
AACTATCTCCCACTCTTTTGGCCCAGGCAATGTCAACGACTTCCACATTCCCTGGCCCAC
TTGCTGAGCAACCCCAGGTTCGGCTCTGTATAAGGACCCTCCCCTNCCAACCCCAACCCC
AGAGTGCAGTGCAAATCAACCAACAATTTACTGGTGGAATGGCAATCAAAGGAAACAGTT
AAACACCAAACAATTNCTTAAAGCCAAAAAATATTTTTCATGGAGTTGAACATTTTTCG

GTGTGTTTTTTCAAGTGTAAAAGCAGTGACATTTTGTTCAAACAGAAGCAGCATCTAGG AATTCTGGCACTTGGGGTTCTAAGGGGGTTACAGGTATGCCATCATGGATTCTTCTCC C

Sequence 395

TTTTTAATTTCCCTCCTTGGGAATNGGGGTTCCTGGCCAAGNACCCCAAAAGGTTTCCAA
GGGAAAATTTTTTAAGGGCCCAAAAAAAGGGGAATTTTTCCCCCCAAAAAATNGGGGNATT
CCCCCCTTAATTAACCAATTCTTTCNAAAGGAAAAGGGAATTANCCAAGGGGGTTTTGGG
AAGGNAAAAGGGAAAANGGCCCCCNNCCAAGNAAAGGGANCCTTTTGGGTGGGAATTGGG
AAAACCCCCAAAAAAAAGGAAAAATTCCNTTTTTTAAAAAAAAGGGAAAAANGGGGGGTTN
TTNCCTTTCNAAAAAAAATTGGCCCAATTTNGGTTCCCAAGGGTNAAGGNAATTTTTTTG

GGGTTNAAAACCTTTGGGGGCCAANGGGGGGGAAAAAAAACCCTTTTGGGTTCCTTTGGG GGGGNAAG

Sequence 396

AA

Sequence 397

Sequence 398

Sequence 399

CNGCCGAGGTACNCGGGGAGAGAGGAAAAGAACACAGATCTCGCATGGTTCAGATTTTTC
TTTTTTAGGTCCAGGAGTAAGATATACATACNGAAAATGAAAATTATAATTCTTCTTGG

TTCCTGGGAGCCACATTGTCAGCCCCACTTATCCCACAGCGTCTCATGTCTGCCAGCAAT .
AGCAATTGAGCTTACTTCATAATCTTTAATAATGGGTCAACTTTTGCCACTACAAACTT

AGGGGCCCACTTAATTCATGGANTCCACCTTTCTCTGGGAATTTTACAACAGCAGCAGCA GGCTCAAATTCCAGGACTCTCCCAGTTCTCTTTATCAGCTCTAGACCAGTTTGCCTGGAA CTGCTCCCAAAATCAGAATACCCTTAACCAGGGAAGAGGCCAGTTTTGGNCCCAAAGGGA GCCCCAAGGCAAGGGCCAAGGTTNGAATCCCNTTAACNGNNTTTAAAAACAACCCGCCTT TAAGAACACAAACCCAGGNCCCCCANGACACCGTTGAATGCCCCTTATTGTTATTTCTTC CC

Sequence 400

GACAGACAGTGCTTGATGTTCATAAAAAATACAATGCCCTGGTAATGTCTGCATTCAACA
ATGACGCTGGCTTTGTGGCTGCTCTTGATAAGGCTTGTGGTCGCTTCATAAACAACAACG
CGGTTACCAAGATGGCCCAATCATCCAGTAAATCCCCTGAGTTGCTGGCTCGATACTGTG
ACTCCTTGTTGAAGAAAAGTTCCAAGAACCCAGAGGAGGCAAGAACTAGAAGACACACTC
AATCAAGTGATGGTTGTCTTCAAGTACCTGCCCGGGCGGTCGAGCGCNCGCCCGGGCAG
GTACGCGGGGGCTAACCAGGCCAGTGACAGAAATGGATTCGAAATACCAGTGTGTAAAGC
TGAATGATGGTCACTTCATGCCTGTCCTGGGATTTGGCACCTATGCGCCTGCAGAGGTTC
CTAAAAAG

Sequence 401

CGGTGGCGGCCGGTTGCCTTGTATGTCACGAGCAATTAGGAGAGTCACGAGGATGAAATA GATGAACCCGACCATGCAGTTAATCACCAACATCAACTACTAGCCAGACGGGATGAACCA 71

Table 1

GGGACATTAGGCTTTTTTTT

Sequence 402

ATTGGAGCTCCCGCGGTGGCGGCCGCCCGGGCAGGTACACATATCCTCTGTGGGAAAAA
CTGCTCTCAGAGTGTGCACTCTCCCCACAAGCCAGCGCTCAAACTGGAAAAAGTATCTCA
ATGTCCTGAATGTGGGAAAACCTTTAGCCGAAGTTCTTATCTTGTTCGGCATCAAAGAAT
CCACACAGGCGAGAAGCCTCACAAGTGCAGTGAGTGCGGGAAGGGCCTTTAGTGAGCGCTC
CAACCTCACTGCCCACCTACGAACTCACACAGGGGAGAGCCCTATCAGTGTGGGCAATG
TGGGAAAAGCTTCAACCAGAGTTCCAGCCTCATTGTCCACCAGAGGACCCATACCGGGGA
AAAGCCTTACCAGTGCATTGTCTGTGGAAAGAGATTCAACAACAGTTCCCAGTTCAGTGC
TCACCGGC

Sequence 403

Sequence 404

CCGCCCGGGCAGGTACGGACGCCCAGGGATCCGCGCCGAAGCTAGCACGCANCCTACCCA
ACAGTCTACACAGCNCGACCAAAGCCCCCGCGTACCCAGAGGAGTCGCTGGTGATNGGGG
AGCTCAACCCTGTTNAGTAGCTCTGCTCATCAAGTGTCTGGAGAAGGAGGTTGCGGCATT
GTGCAGATACACACCCCGNAGGAACATCCCTCCTTATTTTGTGGCTTTGGTGCCACAGGA
AGAAGAGTTGGATTGACCAGGAAAATTNAGGTGACTTCTCCANGGCTTTCCAGCTTGGTC
TTTTT

Sequence 405

T

CGGGGTNTGTGTTTCTTGGTAAGAACTCNATGGAAACAGGCCTCCTT
Sequence 406

TCCCCGCGGTGGCGGCCGAGGTACAGTTCACAGTGCTTGATGATAATAAATGGTTATTTT
ACTGGTTCATGTATTTACTATATCATACTTTTTTTCATTAGAGTGTGCTCCTTCTACTTA
TGTAAAAAAAAAGTTACCTCAGGGAGGTCCTTCCTGAGGTCTTCCAGCACACGGCATTGT
TATCATAGAAAATGACAGCTCCATGTGTGTTACTGGCCATTACCACCTTCCAGTGGGAAG

Α

Sequence 407

GTGGCGGCCGTGTGCTCATCGTAGCCTCGGGTCGGGGGATGCGTCTCCGCTTTAGCGCCAAGATAGAACTTCCTCAGACCACCGCCGCCGCCGCCGCGTACCT

Sequence 408

GTACCTCCCTGGCTGAAGTCTCTACATAGCTCTCAGGAACCTTCGGAAAGGCATCCAACT CTTTTACCAAACTTAAAGTTTTTTTCCGATTCAGTCGCCTCATCTTCAGGAAAACCTTC C

TCTTCCTTCATATAGTCATGCTTGTGTTATGGTCCCAGCCTACCGCCATGTTTTACAGA

GCCCGGGTCGCCGGGGCTCCCGCGTACCTGCCCGGGCGGCCGCTCGAGGCAGGTACTGAA
TGACACATTACCTCCACACTCTCCCGGACTAGG; NGTCAACAGGGCCACAGGGTTGCTTT
CTGTCTTTGGTGGGGCAGGGGAGTTGACAGGGATGAGGGTCCAAGGAATTAAGCATGGAA
TGACAAGAAAACANGGGAAAGAGTTACCCTGTCACATAGTAGGTTAACTTTTTTAAGGGT
TTGCAAGTAAGAGGNNTTTCGACCCTTTCNCTTGGCTGAGCCANATCNCGGGAACTTGAG
AGCTTTTACTGGGATTTTCAATNNAAAAAATTAACAACAATGTCAAACTNGGGTTTGGA

Sequence 409

TTTTNGGGGGGAGTTAAATAAAATAAGCATGTCTNCATCCTTTATTCCTAAACATTTAC

 ${\tt TATGACAAATGTAANNACTGACAGAAATTTGAAAAATACCANGACACTTCTTAAATGATT}\\ {\tt TCCCTTGGTTCAAAATTTACCCCTTCTTGGGTTTCTNTTGCTTTTCAAGGGTAATNTAA}\\$

CTCTTCTCTTTTTANGTTTGAACTATGCAAGTGCCAAAGGATTCCNCTGTAGTCTTTCC

Sequence 410

Sequence 411

GGTACGCGGGGTGCTGGGATNCAGGCACGAGCCAGTGCGCCCAGCTGCCTNTGTTTNTTT
TATTAGCTGNTCTGGACTGNGGGGGCTCCTTGGGCAGATGCTGTATTATGGGGATAAGCCA
CACACTTTNTGAACTGGCCCGGTCAGGGGGGACATANCCATTTCCTGTGCCCCCCATCAA
NACCCACCTATTCTGAGNGTNNGCTCCTCCCCTGCTTGAGTNATGGCCACANATCTTGGC
TCGGNNCTCCTAAGCTGCATGNTGAATTCCTGGGACAACAAGACTGGCTTGTGGTTCCAT
TCTCCAGATCCTTGGGT

Sequence 412

GCTATGTTTGTGATTGCTGAAAAGAATTCTAGTTTACCTCAAAATCCTTCTCTTTCCCC

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Table 1

Α

AATTAAGTGCCTGGCCAGCTGTCATAAATTACATATTCCTTTTGGG

GCGAGGTACCTAGTCTANATGAGTTTGATGCTTACAGTCAAGGCTATTAGCAAATATTCA GGAAAAGTAAAGCCTAAAGAAGAAAAGAGGGAATGAATAGTTTGTCTAGAGATAATAAAA GGAAGGTGAATTTTTAAAAAGACAAAAATAANGCTAGAAAAGACTGAGTGGAGAAAGCCT GACAATGCAGCCAATGAAAGACTGTGGGGACTAATAAAGGGAGAGCCCTGTGGTTTGGAA. AGTGTCCCTTAATCAGCCTGCAGTGCTGCAAAACAGAAACCCAGAG

Sequence 414

GGTGGCGGCAGGTACGCGGGATCCAAGATGAATGTGCAGAGAAAATAAAGAATCCAAAGT CATAGTCATGAGGACAGAATAAAGACATTTTATGCCTTTTTGTTTTGTTTTCCTT TTTGTGGAGAACAGGGTCTCTCTATATTGCCCAGGCAGGTCTTGAACTCCTGGGCTCATA CTGTCCTCCTGCTTCTGCCTCCCTAAGAGCTGGGATTACAGATGTGAGCCACCATGCCCG TCTTTTTTCTTTTTTCGTTTTTATTTTTTAGTTTTTATTTTTTTGAGACGGAGTC TCACTCTGTCACCCAGGCTGGAGAGCAATGGCATGGTCTCGGCTCACCGCAACCTCTGCC TCCTGGGTTCAAGTGATTATCCTGCCTCAGCCTCCTAAAGTAGCTGGGATTACANGTGTG NNTNGNNNCNNCCCCCCNNNAAAAAAAAAAAAAAA

Sequence 415

ACCGAAGACGAANGCCACTACATGCCCCGCGTACCTGCCCGGGCGGGCCAAAGGCCAAC AAGGGNAGTGGGGNCGGGCTGCANGAATTTCGATATCAAGCTTATNGATACANGTTGACC **TCNAG**

Sequence 416

CCCCGCGCTGCCGGCCGAGGTACGCGGGGCTGCGGAGGACCGTGGGCACGCCAGGGTCGG TGAAGGATCCCAAAATGGCTGGGCGAAAACTTGCTCTAAAAACCATTGACTGGGTAGCTT TTGCAGAGATCATACCCCAGAACCAAAAGGCCATTGCTAGTTCCCTGAAATCCTGGAATG AGACCCTCACCTCCAGGTTGGCTGCTTTACCTGAGAATCCACCAGCTATCGACTGGGCTT ACTACAAGGCCAATGTGGCCAAGGCTGGCTTGGTGGATGACTTTGAGAAGAAGTTTAATG CGCTGAAGGTTCCCGTGCCAGAGGATAAATATACTGCCCAGGTGGATGCCCGAAGAAAAA GAAGATGTGAAATCTTGTGCTGAGTGGGGTGTCTCTCTCAAAGGCCAGGATTGTAGAATA TGAGAAAGAGATGGGGAAAGATGAAGAACTTAATTCCATTTTGATCAGATGACCATTGAG GGACTTGAATGAAGCTTTCCCAGAAACCCAATTAGACAAGAAAAAGTNTTCCTATTGGG CCTANCCACCCATTGAGAATTATTAAATTTGAGTNCAGGANGGAACTTCTGGCCCTTTGT **AAG**

Sequence 417

GGGCTGGAGTGCAATGGCACGATCTCGGGTCACTGCCACCTCTGCCTCCTGGGTTCAAGT GATTCTCCTGCCTTAGCCTCTTGGGTAGCTGGGATTACAGGCGCCCACCACCATGCCTGC CCAATTTTGTATTTTAGTAGAGATGTGGTTTCACCATGTTGGTCAGACTGGTCTNGAA C

TCCTGACCTCAAGTGATCCACCCNCCTTGGCCTCCCAAAGTGTTGGGATTACAGGTGTAA GCCACCGTGCCCGGCCATCAGTTGTATTTNTATATAGTAGCANATGAACAATCAAAATGN TTTAANCCAAAGGAGGGCNCAAACCTTTTCCNTGGGAAATTCCAAAACNCNTNTTTGGNA NGAATTCAAAGNAGGNTGAAANCCCNNCCCCTTTTTNCGGNGTTNANAAAAAANANATTT TTTANNGGGGGGNCCCCNCCCAAANNATANTTCCNCNGTGGGGGGCCCTCTAAAAAANAN

TTTTTTTTTTTTTTAAAAAAAAAAAAANNTTNTTTTTTGGGNG

Sequence 418

CGCGGTGGCGGCCCGAGGTACGCGGGATTTTGAATGAATTCTCAACAAAATGTGCTAGCC
ACTGGGGACGCAAAACAAGTAAGATCCCTGTTGCAAGAAATTCATTTTATNGNGAGGAG
GTTGGCATGGAGACTAAAATTCTCAGGAAAATGAGATCCGTGTTAGATTAGAAGTCCTGA
TGTGAAATGGGAGGACTCAGGAAGGAGGATCGTCTTTACCTGAGGATTTCTAGCCAGAGG
TCCCAGATGCCTGGGCTGAGAACCCAGCGATAAGGGGGCGTTCCCAAAGCAGACACAGGG
ATAAGAACAGAGGAGGCAGCAGTTGCACAAGCCCCAGGCACAGTGGCAGTTAGGATGG
CTGGAGAGTAGGATAGTTCTATGGGTTGCCCAAAAAATGTGATGTCTTCATGTTTTCTC
TGACTCATGGATCTGGTAGAGACCATAGACATGATATAGGACTAACTTGCCCATTTTTCA

CCATGTGCTTCATGAAACCTACAGTTGGCCAGAAGAATGNTCCTGCCCCGGCCGGCCGCT CTAAAACTAGGGGGATCCCCCGGCTGCAAGGAATTCGATTTCAAAGCTTATNGATTCCCG NCACCTCGAGGGGG

Sequence 419

Sequence 420

GAGGTACGCGGGGGTCGCCCATTTTGTCTCGGCAGCGGTGGCCCGTAGCTCCATCGCA TTTTATGTTTCTGGCGAGAAGGGAACGGAGTTTTCATCAGGTAGATTGGTTTTTGT

Sequence 421

GGGGCGCCGCCTNCCCGTGAAAGACCTCCTGCTGGAAGACCTCCAGGATGGAGAAG
TGAGGCTGGGTGGCTCCCTGCGAGGGGCATTCAGCAACAATGAGAGAATTAAAAACTTCT
TCAGAGTCAGTTTCAAAAATGGATCCCAAAGTCAGACCCACTCGCTACAAGCCAATGACA
CTTTCAACAAACAGCAGNGGCTTAACTGTATTCGTCAAGCCAAAGAAACAGTTTTGTGTG
CTGCCGGGCAAGCTGGGGTGCTTGACTCCGAGGGATCGTTCCTAAATCCCACCACCGGA
GCAGAGAGCTACAGGAGAAACAAAACTTGAGCAGATGGACCAATCGGACAGTGAGTCAG
ACTGTAGTATGGACACNAGTGAGGTCAGCCTCGACTGTGAGCGCATGGAACAGACAC
CTTTCTGTGGAAACAGCAGGCACGGTGAAAGTAACCGTCTGACAGAAAGCATGTGCACTT
CNGGAAGCAGGCCTGCATCTTACCTGTACCTGCCC

N

Sequence 422

Т

Sequence 423

Sequence 424

CCGCGGTGCCGAGGTACTGCCGAGCCGCTCCTCCCGCAGCTGTGCCGCCTCCTTGT CCTCCTCCTCATTGTCACTGCCAAACAGGTCAATGTCATCATCCTCGTCATCCTCTGC

GTGTGGCTGGCTTCCAAGCTGGTGCCCGTGGGCTACGGTATCCGGAAGCTACAGATTCAG TGTGTGGTGGAGGACGACAAGGTGGGGACAGACTTGCTGGAGGAGGAGATCACCAAGTTT GAGGAGCACGTGCAGAGTGTCGATATCGCAGCTTTCAACAAGATCTGAAGCCTGAGTGTG GGTACCTGCCCG

Sequence 425

CCTCCGCGGTGGCGGCCGAGGTACTAAGTGGTTAAGGATGGAAAAGAGCTAACAAGTGA CAACAAATACAAAATAAGCTTCTTCAACAAAGTATCCGGCCTTAAGATCATCAATGTAGC GCCGAGTGACAGTGGGGTATACAGTTTTGAGGTGCAGAACCCTGTTGGCAAAGACAGCTG CACAGCTTCATTGCAGGTTTCAGGTTGGTTGATTTCTTGGGCTTTTCCTTCATCATTAT

ATAATGTAGTTCCTGATTTTCATAAATGTATATGGGTTGTTACATCTTCTATAGGATAAC
ATGAGTCCGACATCTTCTGAATCAGCAAATTCAGAGGCAATACCATCTCAAGAAGCCACC
Sequence 426

Sequence 427

76

G

CCTCCTCGTGGGTTGATCGAAAATGTATAAAACTGACTGCTTCTCGCCAGCCTCAGACAA GAAAGAGTGAGCTGCTGGTACCTGCCCGGGCGGGCCGTCTAAAACTAGGNGGGAT Sequence 428

GGCCAAATGCAGAAACGTCCCACATGCCCACCAGGAGCAAGCTTCAAAATGTTCAGCTTG
CGGGGCANTNNGCAGAGAAATNCCAGGGATGTTCCTGAAGGCCTNGATGATACCANTATC
CTCATTATAAGATGAATGCACGGGGCCCNTTGCGCTGGATACCGGCNAACCGGNTTCTNA
TTNTGCCTNTGNCAGCTCTCATTCGCTGAGAGGCATAGACCTTTTTGANGATCATTCCAA
NGCTATAAGTCNTCTTAAGGAGCAAAAACCAGCTTCCTTGGTCTNTCTTGAAGNCCTTCA
ACTTTATCTTTCAACTACCAAAGGGAAGGTNCAGGAAACTTTCCTCAATAACCGANGGAC
CTTTAGGACATGAACCAGGTGNCTGGNTAGGGGCTGGAGGCCAGCCCAGGGCAAGAAACA
NAATGGCCGATANCCGTTTTTGGGGTTCCCGCGGTACCNTTGNCCCGGGNCGGCCGGCT
TCTAANAAACCAAAGTGGGAANCCC

Sequence 429

GCAAGTTGTGAATATACTTGGGCTTTCTGTCTTTCCCCAAAAGCAATTTGGGATTATTT

CCTCCTTTTTTTCTGCATTTCATCATAAATACTGTCATATTCATACACAGTAGCATCTT CTGCAAGGGCCTTCTGGATTTCCAGTTTGGTCTGTTTCATGGCCTGCTTCTTAGCAGC

CCCTCTGAAGGCTTTCACTCACAGAGGTCTCATCATCATCATCAGAATCATTCCCAAACA CTGATGGTTTTTGCAAAACAGGGTGCAACTGCTGTGTTTTCTTTGGCAAAATAAGCCCAT ACTACCTGCCCG

Sequence 430

Sequence 431

Sequence 432

GCGGCCGAGGTACCACTGCTTCCCGGGACTCTGCGTTGTTACCACTGCTTCCCGGGACTC TGCGTTGTTACCACTGCTTACTGCGTTCCCAGCATTTCTTTTCTCTTCTCTGTTTCCTGT

GATTCCGGCTAATGGTTTCCCCTGGCATTTGACTTCGTGATGTGTAACTGAGTCTCTT

77

Table 1

TGAAGGGGAAACGCATTCCAGAGCATTTGTTCGGGCTCATGTAGGAATAGATCTTTGAC TGCCCGGTAAATCCCGCGTACCTGCCCG

Sequence 433

GTTTCATTCTGTCACCCAGGCTGGAGTGCAGTTGTGCATTCATGGCTCACCACAGCTTGA ACCCCCAGGCTCAGGTGATCCTCTCACCTCAGCCTCCCCAGTAGCTGGGACTACAGGGGC ACACCATCAAGCCCCGGGTAATTTTTGAAATTTTTATAGAGACAGGATTTTACCATGTT

CCCAGGCTGGTCTTGAATTCCTGGGCTCTAGTGATTCCTCTGCCTTGGCCTCCCAAAGTG CTGGGATTACAGGCATGAGCCACCACACCCCACCTGTCTATTTTACAATTTTCCTTTGAG CTCTTTTTTCCAGCAGTCATGAAGCTGGCAAATGGCAGAACTGGAGCTAGAAACTGCTGA CTCCCTTTATCTTTTCCATAGCACCCCAAGC

Sequence 434

NCGCGGTGGCGGCCGAGGTACTTTTCTAAAAGCTCATCCACTCTATCATTTAGATATCCA
ATTTTCAGAATGTGCTCAACATTGGCCACTCCATCTGCCATTCTTAAGTCTCCTTGGG
AG

TCTCCCAGAAGAATTATGTTACTATTGTCTTTTAGTTGAATTATTCTGTATTCCTC
AAGGCACCATCATGTTTGTTAAATACATGAATTAGTTCTCCTTTAAATCCTTTGAGCAC

CCCTATGAAAAATATAAATCTTTTGAACAGGCTTTAAAAATTCTATTTGTTGGATTTTCA TATTTTGGAGCTCTTAATTGATGTCACTATTATTTCATCATATTTGTAAATACATCTTTG ATACTAGAGATCTCAAAGCACTTAAGTCCATCACATTCACCATAGCTAAGAAGGGCTCGG AGAAGTAAATGATTTTTTAGATACTATTTTAAA

Sequence 435

CCCGCGGTGGCGCCCCGGGCAGGACGCGGGGGTTGCTCAAACCGAGTTCTGGAGAAC GCCATCAGCTCGCTGCTTAAAATTAAACCACAGGTTCCATTATGGGTCGACTTGATGGGA AAGTCATCATCCTGA

Sequence 436

GTGGCGCCGAGGTACGCGGGGGAACACCACCCAGTGTGGAGCAGCCCAGCCAAGCACTG
TCAGGAATCCTGGGAAGCACCTCCAAGTGACTGCAGATCTGGAATAATAAGTGNGGGGTA
GATCTGCCCATAGAGCTCACTTTAGACCGGCCTATACTCCTACAAGGAATTGNGGTAGGG
ATCTTNTACTCATCCTTGGCACAATAAGAATGGCCAATGCCCTTTCTAGTTGTTTGGGGG
AAGGTCTTTGAAGGCACCATTTNCCCCCATCCCCCTGGGGGAAGAAATGGGGTCCCTAAG
GTAACGCCANGGTTTTTTGGGGGTTNAATTTGCAAAAATCCCCTTTTTNGNGGGNTANNA
CACAAATGGGCTNGGCAATTTNTTTNTTTNCCCCAATTNGNTCAAAANGCCCAANAAAAT
TTTTTAACCGGGGTTGGGGGGGGGCAAAATTTTTTTGGGCCANNTTGGCAATTCNCNGGG
ANAAAAAATTTCCCAANGGGGCCNGNNGTTCAANTTTCCTTNTAACCCCGTTTNAAACCT
TCNCCCCCCNGTTTNTTTTTTTTGGANCCCTTAAAAAAAACCATTTTTTGG

Sequence 437

ACAGAAAAAATGGTTTCGTAAATAATTTGCCTATTTTGGTTAACATAGCACATGGAGAT AATCATCTGAAAGTTATAGGGCACTGCCACTGCTGAATCAAGAGCATGCCCAATATTTGA GGTGGCTCTGATTTCCTGGCAGCTGAACTCGGGTAGTCCAGTGGCCTAGCTGGTCCTGCC CG

Sequence 438

CGGGCAGGTACGCGGGGAGGTGCCGCTGTTGCTGCTCGTGTTGAATCTAGAACCGTAGCC

AGACATGGGACTGGAGGACGAGCAAAAGATGCTTACCGAATCCGGAGATCCTGAGGAGGA GGAAGAGGAAGAGGAGGAATTAGTGGATCCCCTAACAACAAGTGAGAGAGCAATGCGAGC AGTTGGAGAAATGTGTAAAGGCCCGGGAGCGGCTAGAGCTCTGTGATGAGCCGTGTATCC TCTCCGATCACATACAGAAGAGGATTGCACCGGAGGGAGCTCTTTGGACTTCCTTGGCAT GCCGAGGGGACCCATTTGCGTGGGCCCACAAACNTCTTTAAACAACCTTGGAAATAAAAT GTGTGGGACTTTAAATTTCACCCCAANGTTCTTTCANTNAATTCCTGGGGGGCATTCAAG AAATAATTTTCTCTTTTATTGGGGTTNTTTGGGGAATNNTAACCCCTTCGGGGCCCCGG

TCTTAAGAAACCTTGNTGGGGGANTCCCCCNCGGGGNCTTGNCAAGGGAAATTTTTGGAT ATTCTAAGGCCTTTAATTCNGATTACCCCGNTTCTAANCCTTNGAANGGGGGGGGGNC Sequence 439

Sequence 440

GGGGCGCCGAGGTACGCGGGATGTCTAAAATATCTTGTAAAAAGTGTTAAAATAAACAA ACCCAGTCAATTAAAAATTTTGACTGTTATTGAGAAAACTCCAATGAGGGAAATAATAAG ATCTATAAAGGTCTTAAGAAAAATATAATTTGAAAAAAACATGTGGCTGAGTGTGGTGGC TCACGCCTATAATCCCAGCACTTTGGGTGGCCTAGGTGGGCAGATTGCTCGAGTCCAGGA GTTTAAGACCAGCCTGGGCAACATGGCAAAACCCTGTCTCTACAAAAAATTAGCCAGGTG TGGTGGGACACGCCT

Sequence 441

AGCATATCCCAGGCAAGCTCTAGGTTCCCAATCTCCTCCTCATTTTCTTGAAGAGAC TTGGTTTCAAGGACTGAATCATTTGGCAT

Sequence 442

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Table 1

CCCGCGGTGGCGGCCGAGGTACATGAGAGACACTTTAAGCAGGCTCACAGGAATAGAGTG
AGTGCGGACTCAGATTGTTTAAGCTATCTCTGAACCCATTCCTACTGCGTTTAACTATT
T

TATTGGTTTCTAACTACCACAGACACGGATACCTCACAGGTTCCATTATTACTCAC

GCGTTGTGGTCCGGGTTCATCGCCATCCTGCTCCACGCTGTCATAATCCTCACGCATCCG CGCTCGGGACCCCTCTTCTATAAGGGACATACACGAGATCACCGAAAACTCCTCCTTTCT CCCATTGTTCCTATGAGGTGGGTGGGGACTCCAAAACCCGTAGCTCCTGCCCTACTAGGC CACTCTACCCCATT

Sequence 444

Т

GCTTAATGGAATTGTTATGGCTAAGCACATA_AAGGCCAAAAAAAGGAGTTTTTCAAACCC
AGCAAATCAAGTGCTTGGATTCTGAACTGCCAAAAGAAAACTGCACTTCCCCTCTTAAGT
AAACCGAAATGAGTTTTCTTAGGTAAATGTATTCATCAAGCCCAGNATATAGAAAATAA
AACCCAGGTTANTGGTGNAGCCGTTTAGGTCACCTGCATCATTTTCCAGGGAAAGATTCA
AACCAAAAATACCAGTNCCCAGNCCAGGACTCACAATGTGTTGGANTAATATTATTATTA
AAAGCAAAAGGAGGCCCCNCCCCCACCAAAGCCCAAGCTGGGNTGGAAAATAATCAA
GGCCTGGTCCCACNCCCGTNGGGTAATGCCCAAATTCCGGGGGGAAAAATATACCTNCCC
TTTGGNAAAAAAAACCTTGGGAAAGAAATTCTTACCCTTNGCCTTGGGGAAAAAAAA
Sequence 445

TCCCGCGGTGCCGCCGGCAGGTACTTTACTAAAATGACTGCATTCTTTGGATTCCTTCAGTCTATGGTTCAAGTCACTAAAGATTCATTTTTGTTGAGTCCTTATGAGAAACA

NAGTATGAATCTTGACGGTTTCTGCCCGTCCTAATGGCAGAGCTCTCTGACTTGGGTGTA TGCTACCAGGCTGGGTTCAAGTGAGAAGTTCTGGTCAGTCTTCTGTGGGTTGAAGGTTCA ATATCAATTCTGTTTCAAAGCCTTTGTGATGCTATTTGAATCTTTGCTCGGTATATGCC

CCCAGTGGGTCAAGTCTGGGACCTAGGTGGTGAGCTATCCCATAAGTTCATTCTCAAACC GTCTTTACTGCACTGTTTAGGGTCAGATACNCATTATATATACNACTTTGGGTGAGCT CA

GGAGTTTATAAGCTTTATGGGCTTTGGTGTTTTGATTTATAAACAGGAGTTTATNGAAC

TTATGGGGTTTGCTTCCTCTTTCTGCCCAGGTTCCTTGGG

Sequence 446

GGTGGCGGCCGAGGTACGCGGGGAGACACACTTCCTGGGCTTAGATATTTCAGAATATC
ACAACTAAACTCTTAAAAATTTCTGAAGGCTGGACACCGTGGCTCACACCTATAATCCCA
GCACTTTGGGAGGCTGAGGCAGGCAGATTGACTGAGGCTCAGGAGTTCAAAACCAGCCTGG
GCAACATGGCGTAACCTCGTCTCTACAAAAAATGCAAACATTTGCTGGGCTTGGTGATGT
GTGCCTGCAGTCCCAGCTACTTGGGAGGCTGAGGCAGGAGAATCGCTAGAACCCATGAGG
TGTAGGCTGCAGTGAGTCATGTTTGCACCACTGCAGTCCAGCCTGGGTGACAGTGTGTAT
TAGTTTGTTTTCATGCTGCTGATAAAGACATACCTGAAACTGGGAACAGAAAGAGGTCTA
ATTGGNCTTACAG

Sequence 447

Table 1

GGTGTTCTCAAGGCAATTAATAATGATTGTTTTAACACCAACAANAAAGAAAACTATTA

CACNAAAANTAAGGTNCCCTGCCCCGNGGCNGGNCCGCTTNCTANGAACTTAGGTGGGAT CCNCCCCGGGNCTGCAAGGGAAATTANGNATTATCCAAAGCCTTATTCGAATAACCCGTC CGAACCCTCANAAGGGGGNGGCCCCCGGTATACNCCAAGCTTTTTTGGTTCCCCTTTTA AGTGGAGGGGTTAAANTGGCCGCCGCTTGGGCGTAAAATAAATGGGACNAATAAGCCTGG TTTTCCCTGNGGNGGANAAATTGGTTNTTCCCGCCTCACCAAATTCCCACCACNAAACAT TACCGAAGCCCGGGGGAGCCAATAAAAAGTTGGTANAAAGCCCTGGG

GAGTCCATGTTGCCCAAACTGGTCTGGAACCACCACCACCCAGCTAATTTTTGTGAATTGC
GGGTACCAGCACACCGGCGCCGTCCTGGACTGCGCCTTCTACGATCCAACGCATGCCTGG
AGTGGAGGAGTAGATGAATTGAAAATGCATGATTTGAACACTGATCAAGAAAATCTT
GTTGGGACCCATGATGCCCCTATCAGATGTTGAATACTGTCCAGAAGTGAATATGATG
GTCACTGG

Sequence 449

Sequence 448

CGGCGGCCGAGGTACAAAAAGCAGGGGCCCAGCCCCAGCTGTTGGCTACATGAGTATTTA
GAGGAAGTAAGGTAGCAGGCAGTCCAGCCCTGATGTGGAGACACATGGGATTTTGGAAAT
CAGCTTCTGGAGGAATGCATGTCACAGGCGGGACTTTTTCANAGAGTGGTGCAGCGCCAG
ACATTTTGCACATAAGGCACCAAACAGCCCAGGACTGCCGAGACTCTGGCCGCCCGAAGG
AGCCTGCTTTGGTACCTGCCCGGGCGGCCGTCGATCTCCTTGTGTTCAAGCAACTTCTTG
CGGTAGTCCTGAAGCGCCTTATCTCTAGGGTCCGCCATGATGAGAACCCCGCGTACCTGC
CCG

Sequence 450

NGGTGGCGGCCGAGGTACTCCCTACGGCACTAGTCTACAGGGGGAAGGACGCTCTGTGCT GGCAGCGGTGGCTCACATGGCCTGTCTGCACTGTAACCACAGGCTGGGATGTAGCCAGGA CTTGGTCTCCTTCCCGCGTCAAGAGATAGAAAGACCAGTCCTTGTGAAAGACAAGTCTGA ATGCTCCACTTTTTCAATTCTCTCCCATTCTTCAGTAAGTCAACTTCAATGTCGGATG G

ATGAAACCCAGACACATAGCAATTCAGGAAATTTGACTTTCCATTCTCTGCTGGATGACG TGAGTAAACCTGAATCTTTGGAGTACCTGCCCG

Sequence 451

CAGTTTTAGGAGAAAAATTCACAGAAAAGTCAGATTGTAGATTTTGAGAAGGAAACTCTG AGGTGGTGATTTTCTCCAAGGTCATGGTTATGAAGCTCAATGAGGGCCTGAATTGCTTCT TCCACAGATCCCAATTGAATGAGCGCCATTTTGCGATCTTTCTGAAAGAATTTAAAA Sequence 452

GGGGCGCCGCTAATGTNAGAAGTTAAGTNAGAACCTATATTGTACGAGGAACAAAAGCC AATCAGTGTCCTTTTTTTTCATAAACTTTTACTACAAAAATTNATATATGGA TTTTGAATTTCCAGTCAAACCAAATTGTAAAACTGTTTCATTTGGTTCTATATTATGTAT WO 01/42467 PCT/US00/33312 81

Table 1

ACATAATTTATCTATTATATATTTACATTAAAATATATGCATATATAATGGATTTAATTT CCTTTNGGNACCCCCATATNTAGAAGNNTCTTCATAANTTAATAAATAATCTAGGGCCAG CATTATGTTTGCTAGACCTGGNTTTGGCTCAATACTTAAAGTTAAAAGTTTCTGTCTTT

TTCTTGGACTTGAAACTGCCTANAGCGTCAGCCTCTCTGTTATTTNTNTCTATTTNCTT

TTCCCCCATCAGTCTTTTAGCCACTTGAAGCCAAAATTCTTAGTTTCTGTCCTAGTNGA

AAGAGTAAAAGGGGAAGGAG

Sequence 453

ACGGATACCCTGTTCCGCCTTTCTCCCTTCGGGAAAGCCGTGGCGCNTTTCTCATAGGCT CACGGCTGNAAGGTAATCTCAGNTTCCGGTGTAAGGTTCGTTCGGCTCCAAGNCTGGGCC TGTTGTGGCACCGAACCCCCCGGTTTCAAGCNCCGAACCCGGCNTGCGGCCCTTATCCC GGGTAACCTATACGTCTTTGAGGTCCCAACCCCGG

Sequence 454

NGAAGGCGACGCCGGNCAGGTACGCGGGGACCTTTNACGGGCGGGGGGAGCTGAGGCT CCTGNCGNTATCTNTGATCCTTGCACCCTGGCAGGAAGNTGGTAGGGGGGNACTNTAACGG GAGGNCTNCACATATTGCAGAAAAGAAACCACTTTGGNGNGTAAGACTTGGAAGAAAGTA ACCGGTCACTTTGGAAAACAGGGGTGGGGAAGAAGCTGCCTCTCTTTTGAACCTNTTCCN AGGGACCAANTCTAACCCAGGTGAGGNNAACCNTGGTNGATGTAAAGCCGGTGGCTTTGG AGGACAGAATCATCTAAGTGGGAANAAGATACACTAGGAAGGGNGCTGGGGGGANTACCA TCAAGAGGGAGGNGGGGATNACCTTCAGGCCGGGGGCTTNCGGNGGGGATGAAAGAAGGA ATGGGNCCGGACAGGTTTGNGGGTNGGAGGGTATGAAGGCTTGGCNAAATGGTGGGGAAT TTTGGTAACNTTCGGGCCGGGTTTTTAGAANCTNAGGGGGGANTCCCCCGGGGCTTNGGA AGGGGAAATTTTCGANTAATGCAAGGCTTAATANGAATTACNCGGGGGGACACTTCGGAG GGGGGGG

Sequence 455

CCCGCGGTGGCGGCCCCGGGCAGGTNCGCGGGGAGGATCTCTGTCTTTTGTTCCCTCA CCTGTCTGCCTGTCTCCTTTCCTGCCTGGGGGGACTGTCCAGAAGACATCATCGT CCAGTTCCTCTGCATTTGAACAGCTGTNCCCCCACCCCTCAATACCGTTTAGAGCAGAAG CCAGCAAATACTAATCGGTCAGGGACACGATAGAAACTATTTTCGGCTTCATGGGCCACA CAGGNCTTCATTGCAAGCTCCTCAAATNTGCTGTTTGTAGCTAAGGAAAGAANCCATTAT ACCNTGTGTNAANCAAAAATGAAATATTGGCNTGTGTGCCAATAAAAAACCTTATTNACA AACATTAATNGAGTNGGGCNTGGATATGACTTCACNANTACTGGTTAGTTTTGACAACCC CCCTGGNTNCTAGNAGTTAAAAATCCCAAAAACTNCTTATTAGTCCCTCCC

Sequence 456

CGGCCGAGNACAACATGACATTTTTAACCAATCCAATCTAAAAATGTTGCCAGAATCCAC CTGTGGCCCNGAATCGNGTNTTGGTTCCTCTTTCTACTCCNCTGCAGANGACCAAACCTG TCCCGCTGCCACTTTCCTCACTGATATTGGGAGGGGGCAAGGCCCAGCCGAAGTTCCAC TAAAAATGCCCCAGGAGAATAGGCACCNGGCTGGCTTGCCAAAGGGTTTNGGGTTTTATT GCTTTCTGTTTTTCCTTTTCCCCGACAGCACAAGAANGTAAAGGGGCAGTTAATTGGAC AGAGTGTTATTTTAAAACATCTCTAATTGTAAATGNAATGTGGTTGGTTTGGGTTTCTA

TGCAATTGGTGNGAAGCCATGCCGGNGGGGAAAGAAGAACNTGACCCCAAGGNTAATTG AAAATNGGGAGNCCCCCTTTC

Sequence 457

NCGATATTACTGTGCGAGAGGTAAAGGATATAGTGGCTACGATTACNGCCTCTCT Sequence 458

CCCGCGGTGGCGGCCGGCCGGGCAGGTACACGACAAAACTACAGACTTAGTCTGGTGGA CTGGACTAATTACTTGAAGGATTTAGATAGAGTATTTGCACTGCTGAAGAGTCACTATGA

GCAAAATAAAACAAATAAGACTCAAACTGCTCAAAGTGACGGGTTCTTGGTTGTCTCTGC
TGAGCACGCTGTGTCAATGGAGATGGCCTCTGCTGACTCAGATGAAGACCCAAGGCATAA
GGTTGGGAAAACACCTCATTTGACCTTGCCAGCTGACCTTCAAACCCTGCATTTGAACCG
ACCAACATTAAGTCCAGAGAGTAAACTTGAATGGAATAACCGACATTCCAGAAGTTAATC
ATTTGAATTCTGAACACTGGAGAAAAACCGAAAAATGGACGGGGCATGAAGAGACTAATC
ATCTGGAAACCGATTTTCAGTGGCGATGGCATGACAGAGCTAGAGCTCGGGCCCAG
Sequence 459

Sequence 460

GGCGGCCGGGTACGAATGTGCAAATTAAAGCATGGTAAACTGATATTTACATAAATATCA AACCAACAATTAGTTTATACATTGTCAATGACCTTCTAAGATATGTCATGAGTGGATCC A

AGAATATCTTTCCCCCAATGGAGAAGGTATTCAGAGGCTAAATTCCGACACTTTAAAATG ACACACATCATAGGCTTTACCTGTTTGACCACTGCCTCAAATGTGTGAGATGTGATTT TA

Sequence 461

GAGTTTGAGAAAGCTGCAGAGGAGGTTAGGCACCTTAAGACCAAGCCATCGGATGAGGAG
ATGCTGTTCATCTATGGCCACTACAAACAAGCTACTGNGGGCGACNATAAAAACAAGAAC
GGCCCCGGGGATGTTGGACNTCACGGGGCAANGGCCAAGANTTGGANGCCTGGGAANGAG
CTGAAAGGGACTTCCAAGGAAAGNANGCCATGGAAAAGGCTNTACATCAACCAAAGTATG
NAAGAAGCCTAAAAGAAAAAAAATACNGGGANTAATGAGAGCACNTGGATTTTGGGNTAC
NTGTGCCCCATGTGTTTTATTCCTAAACTGGAGNACAATTGCCTNGNNTTTTTTCTAAN

ACCCGNTGGAATGGTTGGGGAAATCTCTGGGGAAAAATAANCCAGNTAAAACCAGCTACC TCAAGGGCNTGCTCACCCATACCG

Sequence 462

Sequence 463

GCGATNCCCCCTGGGAAGCTCCCTCGTGCGCTCNTCCTGNNCCGACCCTGCCGCTTACCC GGATACCTGTCCGCCTATTCTCCCTTCGGGAAAGCCGTGGGCGCTTTCTTCATAAGCCTC ACCGCTGTAGGNATCCTCAAGNTCGGGTGTAAGGNNCGTTCGCTCCAAGGCNGGGGCTGG NGGNGCACNGAACCCCCCCGNNCAAGACCCGACCCGGTGGCGCCTTAAACCCGGAAAACT WO 01/42467 PCT/US00/33312 83

Table 1

AATNCGNCNTGGAGGTCCCAAACCCCGGGGNAGGACACCGACTTATCCGGCCACCTGGGC AGGCAGCCAACTGGGGTAAACAAGGGATTAAGCAG

Sequence 464

TTTTTTTTTTTTTTTTTTTTTTTTTTTAACNGCNGCCNCCNCCATGAAAGAGGG GCCNCCACATNTTTATTGCATACNCAGGGGAATAACTTATTNTACAANGAACNCTCCTCC ATTNGGAGACCATGCCCACTTACAGAATGCANCCGNAAATGCGGTAAATNTATTTACAGA GGNTGGGGNGCAAGATGAGANAAGTTTCANCCCCAGGAATTTGAAGNGAGAATGATCTAC AAATTNTCCTGACAAGGNGCAACCGGGCTTGNGCTAGNGNGGNCTGAAANAATTCCTGGC AAANCGTAGGGGAGATTAAATCTCGGAATTGACAGCAAGTTTGGGGACAGNGCAAAAAN AGAGGGGTGACCCTGTGAAATTTGGTGCCTGGGGGAACTTCTTGANGCCCCAATGNGGGG GCACCNCTTNGAGANGATNGGGNTAAATTTANGGGGGGATNTTTTAACCCCTNTCCNNCC CCAACCAAAAAAGGG

Sequence 465

GGCGGCCGAACGCAGAGAAGGTNGANGATTGCACCATGCCGATTCGTCGAACTGTGAATT CAGACATAAGTTCAGAGGAATCTGTCTCCACTGTAGAAGAACAAGAGAATGAAACTCCAC AAAATAAGTCTTCTGAGGAAACCAAAAAGGATGAGAAAGATCAGTCTAAAGGAANAAAAN TTTTATNNNATTAAAAGTACCTCGGCCCGCTCTAGAACTAGTGGGATCCCCCGGGCT

TGGCGGCCGAGGTACGCGGGGAGGTCGGTGCGCGCTTCTCCCGAGGTGGAACGGGCGGC AGTCAAGCGCCGGCGTTCTCTGCCGTCACCCTTTCCTTGC

Sequence 467

AG

TCTTGCTCCATCACCCATGCTAGAGTGCAGTGGAGTGATCTCGGCTCACTGCAACTTCCG CCTTCTGGGTTCAAGCTATTCTCCTGCCTCAGCCTTCCAAGTAACTGGGATTACAGGCAC ATGCCACCACGCCCAACTATTTTGTATTTTTAATANAGACAGGGTTTGACCATGTTAG

CAGGCTGGTCTTGAACTTCCATCAGGNGATCTGCCCTCCTCAGCCTCCCAAGTGCTGAGA TTACAGGCATGAGCCACCĞCGCCTGGCTGATTGNGTTCCTTTCTCACAGATTTTGTTT

CT GTTTTGTTTTCCTGAACACTCAGCTGGACTGCATTTCCCAGCTTCCCTTGCAGTTAA GT

CACAAGTAGCGCTGTGACTGGGTTCTGCCCGGTAGGAAGGTAAGCAGAAGTGAATGTGTA TCACTTCTAATGGTGTGGGNCTCCCNAAACCTTCTAAAGGGGTATGTTCCCCCTTTTT TT

T

Sequence 468

TTGGAGCTCCCGCGGTGGCGNTCGGTGTGCTGNGCTCAGCTGCCTTCCNANGGAGGANC NGATCGGCNAGTGCTCTGACTGCGTGGCCGACAANNGCTGNCGNAGAAAGAAATNAAANC CCTGAAACATGACAGNGAGTGNTGNAAAGTGTGGAAATGCCTTCTTAAAGTTNATNAANG TNAANTCAAANNACATTTTTTTTTCAAAAANATAAATTTAGAACTAANTGNACCTT

Sequence 469

CGGAGGAGAATGGTATCACTCAGGCTCTCAGAGTGACACTGAAGCAAGACACTCATGGGG TAGGACATGACCCTGCCAAGGAGTTCACAAACCACTGGTGGAATGAGCTCTTCAACAAGA CTGCGGCCAACTTGGTAGTGGAAACTGGGCAGGATGGAGTACCTTCAGGATTGGCCTGTT **ATCTTCTTTAGAACTAAGTTCATCTTAAAAATTTAAGAAGGTGGACATTTCAACACCAT**

--Table-I

A
ACTAGTCACTAGTAATTCGGTCACCAAGCAAATCAAGCCTGCAAGAAAGGAAGCCAATAT

Sequence 470

TCAAAATGCCATGTTACCATCTAAACC

TTGGAGCTCCCCGCGTGGCGGCCGAGGTACTGATTTTATTGTCTACCTCTCTGGACTTG CTCCCAGCATCCGGACCAAAACCATCAGTGCCACAGCCACGACAGAAGCCGAACCGGAAG TTGACAACCTTCTGGTTTCAGATGCCACCCCAGACGGTTTCCAGTCTGTCCTGGACAGCT GATGAAGGGGTCTTCGACAATTTTGTTCTCAAAATCAGAGATACCAAAAAGCAGTCTGAG CCACTGGAAATAACCCTACTTGCCCCCGAACGTACCTGCCCG

Sequence 471

Sequence 472

GCCGGCAGGTACTATGGGTGTAGTGNTACTATTACAGTTAATNCNTCCTTTGTAGTGCG CTGNTAAATGCAGTGAGGATTGGAGCACTGTCCACTGAGTCTCTGTGC Sequence 473

CAAAATAATTATAATGTATTAACTCATACTGCCTGTCTTTTATAGGGGAAAAAAATAAC

TNTTTTATTTTAAAGTTATAAGGGGGNTTACCTTNTAGNGTGCTTGGATGACAGGGAA AT

TAGCCTACCCCATTTTGGTCTGGAACAGAAGACTTTCAAATTTAATATGGNCCAAGTGTC TTNACTANTTAAGGCAAGATCATGCTTNTGTCAGTTNACCCCANTGNTTGGAATACCGTG NACACCGATCGTGGCTCGNCTACAGCCTCCATGTNCCCAGGCTTCGAGCAGGT

Sequence 474

TTTCGTTACAAAATTCAACAACAGAATCAATACTTTGCATAAACATTATGGATGCTTTTT
CTGTTTGTACCTCGGCCGCTCTAAAACTAAGTGGATCCCCCNGGCTTGCAGGAATTTCGA
TATTAAAGCNTTATCGATACCGGCGAACTCGAAGGGGGGGGGNCCCGGGACCCANCTTTT
GGT

Sequence 475

TTGANGCCCTCCCGCGGTGGCGACAGGGTTACATTGGTAAGGGTGACAGTTAGAAGGGG AAGTCCTTTTAGTGAAATAGATGAGAGGTTTTAGATCTGCACAAACCTTTTTCATGGAAG TCCAACTTTGCTCCTGGGTAGTTTAAAGGACGTAGTCCCATGTACCT

Sequence 476

NGGCTACACGCTAGGAACCTTGCAGCTTACAGTGACAGAGCTCCCATTCACGAGGCCACC ACTCATCTCGATTTCTGGATCTCTAGGGAATGAGTAGAGCTCCACCTGGATTCCCTTT

Sequence 477

Α

TATTTATTAAAATGATTTTTTTAAGTTTGAACTTTATTGGAAGGAGTCCCTCTAATTCAC ACTTTCATCCTAGATAAATGGGTAAGAACCACATATGGAATATAAAGCATTGATTTTTT

AAAACCACATAGTAGCACAGTTGAAAGAAATGCAATTCTCCAGGGTCTTAGAGAATTCAA
AGGNGGCATCTTAGGGNGGGTCCTAAGGAAACCCAAATTACCAGGTCTCATGGGTTTTCC
TTTTGGGTTCAAGGATTAGAAAGGAGTCAGNGGTTACCCACCTACCCTGGTTTTTTAGGA
GGGGTAGGAATATTGAAACCTTTCCTACTTAGTCCANCAGGTTTTACCTGGTTCAAGGGT
GGGNCCCCCAACCAAGGTTCTTTTTTTATCTTTCAAGCCCCCATTCTTTGGCCCTCTT

GNGGGGGGTGG

Sequence 478

Sequence 479

CTCCCGCGGTGGCGGCCGAGGTACGCGGGGGGGGTGTGGCCTGCATCTCAGCTGGCCGCCATCAGGGTAAAAAATTTTCTAACTTGGGT

NAATATTTGTAGNTGAAGTATCTGCTTTCATTTTTTCACGTTATAAATAAAAATACTAT GCTGGNCGGGCGCGGTGGCTCACACCTGTAATCCCAGCACTTTGGGAGGCCAATGTGGGT GGATCATGAGGTNAGGAGTTCAAGACCAGCCTAGCCAAGATGGTGAAACCCCGTCTCTAG TAAAGATAAACAAAAAATTAGCTGGGC

Sequence 480

Sequence 481

CNAAANGTTGCNCTCNGNCTCGGNTTNTAAGTAAACCTAAGGTGGGA

Sequence 482

CTGAGAGATCCCCTCATAATTTCCCCAAAGCGTAACCATGTGTGAATAAATTTTGAGCTA
GTAGGGTTGCAGCCACGAGTAAGTCTTCCCTTGTTATTGTGTAGCCAGAATGCCGCAAAA
CTTCCATGCCTAAGCGAACTGTTGAGAGTACGTTTCGATTTCTGACTGTTTAGCCTGGA
AGTGCTTGTCCCAACCTTGTTTCTGAGCATGAACGCCCGCAAGCCAACATGTTAGTTGAA
GCATCAGGGCGATTAGCAGCATGATATCAAAACGCTCTGAGCTGCTCGTTCGGCTATGGC
GTAGGCCTAGTCCGTAGGCAGGGACTTTTCAAGTCTCGGAAGGTTTCTTCAATCTGCATT
CGCTTCGAA

Sequence 483

Table 1

GCGGTGCCGCCGAGGTACTCTTCAAAATTGTCAAGGTCATGAAAGACAGCAAAAAGTGA
AGAATTCTTACAAACTAGAGGAGACAAAGATTGGAGAAGAAACAATGACTGGCNGGGCAC
GGTGGCTCATGCCTGTAATCCACTTTGGGAGCACCTTTGGGAGGCCGAAGAGGACAGATCA
TCTTAGGTTGGGAGTTGGAGACCGAGCCTGACCAACGTGGAGAAACCCCATCCCTACTAAA
AATACAGAATTAGCTGGGTGTGGTGGTGCATGCCTATAATCCCAGCTACTTGGAAGGCCT
CGGCAGGAGAATCACTTGAACCCGGGAGGCANAAGGNTTGTGGTGAGCCAAAATTGCGCC
ATTGCACTCCAGCCTGGGCAACAAGAAGCCGAAATTTCTGTCTCAAANAATAAANAACAA
AAAAAATAAGTACCTGCCCGGACCGGCCCGCTTCTANAACTAGTGGGATCCCCCCGGGCC
TGCAGGGAATTTCGATATTCAAGCTTATCGGATTCCGTNCGACCTTCGANGGGGGGGCC
CGGNTCCCCAAGCTTTTTGGTTC

Sequence 484

GATGTGAACAAATGTGTCATTGCTCTCCAAGAGAAAGGATGTGGATGGCCTGGACCGCAC
AGCTGGNGCAATTCGAGGCCGGGCAGCCCGGGTCATTCACGTAGTCACCTCAGAGATGGA
CATCGAGCGGCCGCCCGGGCAGGTCACAAGCTTTATTGGGCAACAGCAACGAGCCACGCT
GGCAAACAATGAAAGTAGAGTCGCTCAGAAACACGAAAGATCATATGTGTCATCACAG
CATCGAGAATTTAAATCATCTGGAAGTTCCTGCTAAATTAAAGCATACTGTGCCNNAGGT
CCCCTCTAATCAAAAAAACGCTTGTCCTGGNGAAAAATTTGCATGNGGGNTTACAGAGAGA
GAGATCAACCAGGTGAGGAAATCACAAGACTCTTACATGAGTTTACAGTTAACCCCCCTG
CACCAAAAAAAATAAATTAGCCATAATTTGGTT

Sequence 485

Sequence 486

TGGCGGCCCCGGGCAGGTACGCGGGAGTGTGGATNGAACAGAAAATTGGAAATCATAG TCAAAGGGCTTCCCTTGGTTCGCCACTCATTTATTTGTAACTTGACTGGGGTTTTTTCT G

CTTAAAAATTTCAATTCTCGTGGTAACAACCGCAGAGTAGAAGGAGAGGGGGACTTTACC GAACTGACAGCCATTGGGGAGGCAGATGCNGGTGTGGAGGTGTGGGCTGAAGGTAGNNGA CTGTTTGATTTTAAAAAGTGTGACTGTCAAGNTTGTATCTGTTGCTTTTNTCAATGATT

AANGNGATACAAAATGGGGCTTCTNTCANTCATTTAAAAAGGAAAAACGCCGACCATCCT TTCTAAGGATTCTCTGTGGGAAAAATGGACTGTCAATTAAAATGGCGGGGTTTT

Sequence 487

CCCCAGGGTTCAGTCCTCAAGGGGCCATCCTGTCCCACCATGCAGTGCCCCTAGCTTAGA GNCTCCCTCAATTCCCCCTGGCCACCACCCCCCACTCTGTGCCTGACCTTGAGGAGTCTT TGTGTGCATTGCTGTGAANTAGCTCACTTGGTGATATGTCCTATATTGGCTAAATTGA AA

CCTGGAATTGTGGGGGCAATCTATTAATAAGCTGCCTTAAAGTTCAGTAACTTACCCTTA

Sequence 488

CTTTNGCCACNTAGAGACCCAAAAAATAGCTTATTGGGGAAAAAATTANGTTATTTAAA AATANGCCTTAAAAACCACCAAGGAAAAACCCTTACCAGGGCNTATTAAAAAATTAAACCA ATTAAAAAATTACCAAGGGTTTAAAACTTTTTAAATGGGNGGGATNGGCCTTTAAAAAACC AAA

Sequence 489

NGCCGACCGAAACCTGGTGAAGCCCTTTGGGCGATTGGTGATCACCCCTAGATCCGTGAA AGCTGGCTGCCCCCCATCCGGGCAAGCAGGGCCAAGGTGGCATCTTNACATTCCTGGAA CCCACCCAGTAACAGCAGCAGGTATTTCTTCTGGGTAAATGAAGAGCCTTTCGAAAAAAAC TTTCTTGCCCTCAAAGTATTTACCATAAATTCTCTTTAAAAGTGGACATGGTTCAAGAA

CAAGNGGGCTCAAGAAGTTTNGAAAGTAAAAGNAGGTCATTTTCCTTAAGTTTCAAGCTT TTCAAGTTTTGNTATAACTTTTCAAGCCCTCTGGCCCCTTTTTCAAAAAGAATTTTCTT G

NCCGCGGTGGCGGCCGAGGTACCTGATTTTATTTCNAGTTTTCATCCGAATCCACTGGGG AATGGGACGATTTTGCTTTTGTTTCTTGGCCAGGAATCGCTTAATCCTGAAAGTCTTG TG

Sequence 491

ACTCCCGCGGTGGCGCCCCCGGGCAGGTACAAAAAAATAAAAAGGAGGCTGGTGGAG
AACTGCTTGAGCCCCAGAGTTTGAGGTTACAGTGAGCTATGATCACATCACTGCATCCCA
GGCCTGGGCGATGGAGCGAAACTGTCTCTTAAAAAATGGCAGGAGGTTGGGGAGCTGGGC
AGGTGCAGTGGCTCATGTCTGTAATNCCAATACCTCTGGAGGCCCAGATGGGAGGATC
ACTTTGAGCCCCAGGAGTTTGAGACCNGCCCTGGGTTACACAGGGAGACCCCCGCTNAAA
ATTTTTAAAAAANTAGTCATTNCTTAGTGGGTGCNTTCCCTGTNGTNCCCCACTTCTTT
G

GANGGTTTNNGGNCCAAGGATTTCTTTTNGCCCCTGGANGGACAAAGGCTTTCANTGAGC CTTTTTNATTTTTACCCCTTGGCTTTTAAACCTTGGGCCATATNAATTAGAANCCCTTN

Ν

Sequence 492

TCCCGCGGTGGCGGCCGAGGTACATGAGAGATAATGTTATGACAAGAATAGTTTCTGCAA CATTAAGTATGGGTCAAAAAAAGAAGAAATGGGCCAGGCGCGGTGGCTCATCCCTTTGGG AGGCTGAGGCAGGTGTATCACAAGGTCAGGAGTTCGAGACCAGCCTGACCAATATGGTGA AAACCCATCTCTACTAAAAAAAACCAAAACTTAGCCAGGCATGGTGGTGCACGCCTGTA ATCCCAGATACTCAGGAGGCTGAGGCAGGAGAATCGCTTGAACCCGGGAGGTGGAGGTTG and the first war and

Table 1

Sequence 493

CCCGCGGTGGCGGCCGCCCGGGCAGGTACGCGGGGGTGGCGGCGTTGGGTTGAGCGGGCT TTTTGGAAGTTTGTGGCGGAGTTCTGTGATATGAGCAACAATGGACCAGAAGATTTTATC TCTAGCAGCAGAAAAAACAGCAGACAAACTGCAAGAATTTCTTGGGCAGGGCCTGGGGAA TGCTTTTTTATCTCATATTAGTGCCTGTGATGGCATCTTTCATCTAACACGTGCTTTTG

AGATGATATCACGCACGTTGAAGGAAGTGTAGATCCTATTCGAGATATAGAAATAAT ACATGAAGAGCTTCAGCTTAAAGATGAGGAAATGATTGGGCCCATTATAGATAANCTAGA AAAGGTGNCTGTGAGAGGAGGAGATAAAAAAACTAA

Sequence 494

CGCGGTGGCGGCCGAGGTACTCATGGTTGCTGTAAATTAAGGCAGCCGTTCTGCAGGGTT
TFGCTTAGGCAGGGTCCTCTGAGATCTGGCTATTCTGTCTTGTGGATTTTCAGTCCCC
GC

GTACCTGCCCGGGCGGTTCG

Sequence 495

AGATCTCAAGATCTGGACTTCTGTTGAAAAATTTTCCCGTGAGGNTNACTTATGTCTG

Sequence 496

CGCGGTGGCGGCCGGCCGGCAGGTACCGTGAAAAGGGCACTTCTCCTTGAGAAGGCCT GACAGTGTCGTTAATGTCCTGCTGGCGCATGGTGAAAATTTCAGGGCAACAGTAAAGCAC CCTCTTTAATTTCCCTTCTCCAAGCCCAAGCTTTTGCAGGTAACTGGAGCGCTTCCTC AT

TTGCATAATAGGCAGTTTCAATAACTGGGGAC

Sequence 497

CCGCGGGTGGGCCGGCCGAGGGTACNNNGGAGGCCTCATAANGGCNGGGNATCNTCGAG
GNTGGTATNGNACTGNTNANAAAGCCNNCATGGTGGTANCNCACCAAAANCTCACAAGAA
CAATTGNNGCNGCGAAACAGGCAACAGANTCTGNCATTATATAATAAGGGCGTGGTACGG
TTGGGGAACCCCGNANGANTCNNTATGGTCCTTGNTTNGCAAGCNNTGCATTTTAAATCA
GACGACCGTNAATTTGTTANCCCCAANCCTTNTTANAATAAATCGGCAATCGCGCAATAT
CTCATCATTNANCNACTGTGGACGACTTGACAATCTTAGTGGCTTNATGGACTTATTGCA
AAACTCGAGAAAGAACAAACCTAGGGGTGCGCCCTGACCTTCGGAATAATTCGTAAGCTA
TATGTGAGAAACTAGCAACAGGGCGTTTCATTTATGNGNAANGGGACGCGAANTGGANGA
TAATTATGTAANAAGNGGGCCCCTACGANTTTGGCCCCTAGACGCCCAGGGAAACCGCGG
GGCNCCATGCATNACNCANACTTANGGNAGGGGTANTTCTCCNCACACNCNTCNTTTTCG
ATTTGGANAATANGCTGGGAATNAATCCTACATGACCTGTCATTTTCGGAGTTATCGCNG
GCCGGTACNGNNCCCCCCCGGGGGGGGGGGGGGGGNCCCCCCGGGNTTANCCCCCCCAAGCT
TTTTTTTGGTTTCCCCCTTTTTNAGGTTGGAAGGGGGGGTTTNAAATTTTGNCCGGCC
GC

CTTTTGGGGCCCGGTTAAAAT

Table 1

Sequence 498

TGAGCTCCCGCGGTGGCGGCCGCCCGGGCAGGTACACGGGCCTTCCACTTCAGCTGACT GAATTTAGGCAGTTCTGGCCACTTCAGTTTCCGCACCCAGGCCTCCTGACCCATGGTATC TACGATGAGATCC

Sequence 499

GCAACATTTATCTACAAACCTCTTGGATATTACACCGTAGGNAAGCTTTCTGGGTTATT

CCACCTAGTGAAACCTTGCTCAAGTTTGAAGGGGGTANTGTTGGGATNCTTTCATCTT

TAATTAAAATTATTTACCAACCATGTTGAAAAAGCCCCGACCAATGGTCAAGGGACTGNG
CAAAGGAGGTGCCCACCAATGTTGAATGGGGGNTGGTGGGAAATGGGCAANGCTTCACTG
NTANACAAGGGTGGCTTGGGGGGACCTCAAGTTTTGGGGGTTCTTTGGGAGNAAAGCCAC
TTTAGNTTTATTAGCCAAGGAANTGTTCTTCATAAAAATTGGGTNTTCTTGGATTTAGG

AGACCAANGAAGTTAGGTTNGGGGGGAAAT

Sequence 500

CGAGCCGGAGCCATTNANAGTTGTTAAAAGCCTNGGGGGTGCCCTAAATGAGTGAGCCT AACCTCACATTTAATTTGCCGTTTGCGCCTCAACTTGCGCCCGCTTTTCCAGNTCGGGGA AAAACCTTGTCCNTTGCNCAGCTTGCATTAAATGGAATCGGNCCCAACNGCCGCCGGGGG GAGGAGNGCTGGATTTTGCCGTTATTTGGGGCGGCTTNTTTCCCGGCTNTCCTTCCGCTT CAACTTGNACTT

Sequence 501

ACATACTAGCNNGGGTAGCATAAAAGNTGTTAAAGCCTGGGGGTGCCTAATGAGTGGAGC TTAAACTTCACAATTAAATTGCCGNTTGCTGCTCCACCTGCACCTGCTTTNCCAAGAT CT

GGGGANAACACNTGNCGTGCCCAGGCCTGNNATTAAATGCAATTCNANNNCAACCGCCGC NGGTGGGAGNAGGGACGGTNATTGCCGTTAATATGGGGGCCGCTACTTTTTCCCGC Sequence 502

NACAAACATTACGAGCCGGGTAGTCATAANAGCTGTAAAGCCTGGGGGTGCCNTAATGAG Sequence 503

Sequence 504

ACATACTTANCCCGGNAGCATTAAAGTGTAAAGCTCTGGGNNTGCCTAATGAGGTGAGCT AACTCACATTAATTTGCGTTGCTGCTCACTGCCCCGCTTTCCAGTCGGGAAAACNCTTGG TCNGTGCCCANGCATGCATNTAAATGNANATCGGCCCAA

Sequence 505

CACAACATACGAGCCCGGGAGCATAAAGTGTATAAGCNCTGGGGTGCCTAAN
Sequence 506

CGGTGGCGCCGCCCGGCAGGTACTCGTCTTGGTGAGAGCGTGAGCTGCTGAGATTTGG
GAGTCTGCGCTAGGCCCGCTTGGAGTTCTGAGCCGATGGAAGAGTTCACTCATGTTTGCA
CCCGCGGTTGATGCGTGCTTTTCGCAAGAACAAGACTTTCGGCTATGGAAGTCCCCATGT
TGATGGATCCTGAGGCTTGAAAAAAAACTGAAAGAGAATAAAATATCTTTAGAGTTCGGA
ATTATTGAGAAAAAATCAAANACTCCCNAGTTTTGATGACCTGNGAAGGAATATTTCNGAG
GGACNCCANGCCCTTTGGGGNAAGGANTCCTTGACTCTATCTTTTCAAAGGGAATGNAAA

WO 01/42467 PCT/US00/33312 90

Table 1

ATTCCTAGTAACAGGCCCTNTAAAGACTNAANACCAAACTTTGGACTTCTTGCTTGGATT TTAAACTTGGNACCTTTTCCTTAAATAATATTACCTTTCTNATTCAAAAGGTGGGAAAA Ν

GGGAAAATTTCC

Sequence 507

GGCGCCCGGCCAGGTACGCGGAAATCCCCTAACTTCCTTGCTATCTTCCCATNCCATA TGAACTGTAAACATAAATTGAAGATATTGGAAAANTACATNAANTTATGGACCAACATGA CAATTTTCATTAGGACTTCCTATTCANAGAGTATCAGTTTNACANNTTGGGTATTAGNT

CTAGTATNAAACATTTCAGATACTTGCACTGATTTTCTGGTGGANTAAAAGCAANGGCTT NTACAAGTTNTAAGCATGTCTTNTANGNCTATGCTTTGGAATACCAGCTAATAACCAAT

AACAAGNCCAGNAGCCTTAANGTGGTATTTTTTTGGTTGACCCTAAAAAACATGGAACCT NAANGGGTTTCTNCAAAAANTTGCCTTAACCAAATGGAAANTAGGTGGGGGGAAG Sequence 508

TATCCGCTTCACAATTCCACACAACNATACGAAGCNCNGTTAGCATTAAAGTGTAANAGC CCTGGGGTTGCCCTAATGAGTTGAGGCTAACCTCACATTAATTTGCNTTTGCCGCTTNAC NTGGCCCGCATTTTCCAGTTCGGGGGAAAACCNTGATCGTTGGCNCAGGCNTGCCATTT ANATNGGAATTCGNGCCCAACCNCNCCGGTTGTAGGAGGGNCGGGTTTTGCGGNAATTTG GGNGCGCTTCTTTCCCGCTT

Sequence 509

CCNANGTACACTCCCACCACCACCNCATGGTCTCTTTCATATNNCTCAANNNTCAACNTG NTCCTGNGGCTTCATAATTNTCCTNTTNCATCTTTTTCACTTCNNANGCAAACACCGC CT

CNNCTNANGCTNTNNANTCAATNCANTTNNCCTTAATNNAAATCACAAANTNTCCTCC AT

TACNCANNAANNTNTNNNCATTCANNNCCACAATCCNGGTNNTGGTCTNNCTNNNCCACA TCANCAAAAATCACATCCACCATTNCNATCCCNCNTACCTTCCCNNNCCNCCCCTCTAAA **ACTANTNNATCCCCCNNNCTNCAANAATTCNATATCAANCTTATCNATACCCTCNACC** TC

NAANNNNNCCCNTACCCAACTTTTNTTCCCTT

Sequence 510

CGGCCGCCGGGCAGGTACTCTCTGAGCCAAGGACATTCTCATTTAAACAGTTTAAANAG AAGCGGANAGGGACNCTAANATCAGCAAATTCNCCAGTTTGGATCCTTGTCCTTTTCCGC CCTTTTCCCCCCATTAAATCCANAACCCGTCACATGATAATTAANAAAANGGTTCAGTTC CTCCTCCTCAAACCACTTCCNGTAAGAGGATCCCCCNCNTACCTCNGCCCCTCTAAAACT AGTGGATCCCCCGGCCTGCANGAATTCNATATCAACCTTATCCATACCCNTCACCCTCA AGGGGGGCCCCGGTACCCAACTTTTTTGTTC

Sequence 511

GGGGGAGGCAGNAAANCAAACCACAGCNCACNGCANGGGCACACANCACAATCCCCAGC AAAAAAAAAAATNNTNNTNCCAAACANAAAGAGCCTGGCCAGGGGGCCCANACGGGCC NNAAAGCCCNGGAACCAATTTTTTNTGGGGGCGGGGGCCCCCCAAAGGGCGGGAAAAACA GCCACGACCCACGCNCCAAGCNCGAACAGAGAGCNGGGGGGAGACGCNGCCAAAAGCAAA ACGCCGCCAAANCNNAGGGAGCAANNNGGGGCGAAAAGNNNAACGGAACCANNANGAAA NAAAANCAAAANAAAACCGGACCANA

Sequence 512

AGCANCACCGCGGNGGCGTTTGCGGGAGAACNGNGGACCCCCCGGGCTGCAGGAANNCG

ANANNCNATTTAGGGNGACNNAAACCCC

Sequence 513

Sequence 514

ATTGGAGCTCCCGCGGTGGCGGCCGCCCGGGCAGGTACCTCCGAAATCTTACCTTCAGT CTTCTCTGCCACCCAGTCATTTATATGCTTCCTGCACTCTTCAGTGTCTTCAGCAAAG

Sequence 516

ATTGGAGCTCCCGCGGTGGCGTTTTGCTCTTGTAGCCCAGGCTGGAGTGCAATGGCAGG ATCTCAGATCACTGCAACCTCTGCCTCCTGGGTTCAAGCGATTTTCCTGCTTCATCTT CC

CAGGTAGCTGGGATTACAGGCATGTGCCACAACGCCTGGCTAATTTTGTATTTTTAGTAG
AGACTGGTTTCTCCATGTTGGTCAGGCTGGTCTCAAACTCCCGACCTCAGGTGATCCGCC
CGCCTCGGCCTCCTAAAGTGCTGGGATTACAGGCGTGAGCCACTGCGCCCAGCTATACTG
TATATTTTAAGGAAGTTCCAGCATGTTGCATCTTCTGCATTTATCCCTATATCATTAAAA
GAACATAAAGTTATCATGGTGTTGGGTAAATTAGCGAAATTCAACCCCTTCCTAAGGTTT
AAGGGGAAAAGGTATTTTTAAAAAACAACTTTAATNAAAACTTTACCCTTCTTATACAAGA
GTGGATTTCCCCCTTAATTAGGGATGCATGGTTGATTAAACCTCNAGATACAGCTTTT
TT

GCAGTAATGGGGGGGNTGGGT

Sequence 517

GCGATTGGAGCTCCCCGCGGTGGCGGCCGAGGTACGCGGGTGTTGATCCAGTTCTTGCTT
TTCAACGAGAAGGATTTGGACGTCAGAGTATGTCAGAAAAACGCACAAAGCAATTTTCAG
ATGCCAGTCAATTGGATTTCGTTAAAACACCGAAAATCAAAAAGCATGGATTTAGTAGCT
GACGAGACTAAACTCAATACAGTGGATGACTAGAAAGCAGGTTCTCCCAGCAGAGATGTG
GGTCCTTCCCTGGGTCTGAAGAAGTCAAGCTCATTGGAGAGTCTGCAGACCGCAGTTGCC
GAGGTGACTTTGAATGGGGATATTCCTTTCCATCGTCCA

Sequence 518

Sequence 519

Sequence 520

GGAGCTCCCGCGGTGCCGCCCGGGCAGGTACTATGTTGAATAAATGTTTTTTCCC CTTTTAATTTTTCTGCTTCCCTAGTGCATAGAATTGAACTGCTTAGGGAGTTTGAGGCT G

Sequence 521

Sequence 522

AGGTACACCTCCCCAAGCTCTCTTCCTCCGGCTCTAGCTATATAAGACGTGCCTGCTTCC CCTTCGCCTTCCACCAAGACTGTAAGTTTCCTGAGGCCTCCCCAGCTTCCTGCATGCTTC CTGTGCAGCCTGCAGAACTGTAAGTCAATTAAACCTCTTTTCTTTATAAATTACCCAGT

TCAGGTAGTTCTTCACAGCAATGTGAGAACAGACTAACAACAATCAACTCATGGCTTTAA CACAAAAAAAATAGGTAAGTTCAAAATTAACATATTACCACATCCAACTTCTTTATTCTT GAGAAAACAAAAAAGTCCAAAATCAAAGGAAAGCACCCGTTTTAAACCCTCATATCTTTC TCAGGGCTCACTGCAGTCTGGCCATATCTCAAGCAGGTC

Sequence 523

GCGATTGGAGCTCCCCGCGGTGGCGGCCGAGGTACGCGGGGCTCTTGAGGAGTGAGACTG CAGGAGATGTGGGCCGTGCCAAAGAGATGGATGAGACTGTTGCTGAGTTCATCAAGAGGA CCATCTTGAAAATCCCCATGAATGAACTGACAACAATCCTGAAGGCCTGGGATTTTTTGT CTGAAAATCAACTGCAGACTGTAAATTTCCGACAGAGAAAGGAATCTGTAGTTCAGCACT TGATCCATCTGTGTGAGGAAAAGCGTGCAAGTATCAGTGATGCTGCCCTGTTAGACATCA TTTGTAAGTGCTGGAGTGCAGTAACGCCATCTCAGCTCACCGCGACCTCTGCCTCCTGGA

TTCAAGTGATTCTCCAACCTCAGCCTCCCGAGTAGCTGGGACTATAGCAGTGCACCACCC ATATATGCAATTTC

Sequence 525

AATTGGGGGGNAACNACNGGCCCCCACGGNCCCNCNGGCCAGNGCACCCATTTTTTNGN GGGNGAGAANNCNGGCCACCCNGACCCGGAGAGGAAGGAGACNGTTTTTNAAGNNGCCNC GGGCCACACNCNAAAAANCGACCCGCAANNNGCACCGACAAACANCGGNGNGCNAAAACA NGGGGGCNN

Sequence 526

AACTTAATGTCTTCCTTTTTTTTTTCACTGGCTTTTTCATANATCGAGACATGTAAGCA GCATCATGGAGGTAAGTTTTTGACCTTGAGAAAATGTTTTTGTTTCACTGNCCTGAGGAC TATTTATAGACAGCTCTAACATGATAACCCTCACTATGTGGAGAACATTGACAGAGTAAC ATTTTTTNGGGGNAAGAAGAATCCTACAGGGTCATGNTCCCTTCTCCTGTGGAGTGGGGG GGNAGAAGGGGTATGGCCCCAGGGNNGGCCATATTACTGACCCTCTACAGAGAGGGCAAA GGAACTGCCAGTATGGNATTGCAGGATAAAGGCAG

Sequence 527

AGGTACTCACAGTCACGCTCCTCTGAACCATCCTTGGGCTTCATGGGGTTGGCATTGAGG ATCCCTACGACAGTCCCCTGCTCCGTCTTCCAGAGCGCTTTGTGAACTTCTCCAAATAAG AACAAGGACACATTGTGTCAGGTCACGAAGATCATTCAGTTTCCATATGCTGAAGGTT TTTCCACTATTCACACTCTGTGGCGTAACCTTCTTGAATATAACCCCAAATGTCACCCA

TCTATTTCTTCCAGCTTCTCTCGGCCATCTTTTCCTTGATCTGAGACAGTCTGATCAG Т

TTT

Sequence 528

AAGGANAATTTTTTGGGGGGCAAAAAAAACCCCANCCCCCCACAACCANGCCNAACTNA AAANNNCCAAAAANCCGGCCAANAANANNNCAAAANNNNCCCCCCAATTTTNTTTTTTTGG Sequence 529

CCGCGGTGGCGGCCGAGGTACATTGTATACTGCAGTGTCGTCTACATGGCATTGGACAGG ACATAATGTAAAACATAAAAGTGCAATTGTTACACTTACATATGATAGTGGAATGGCAAC CGTGACCAATTTTTGGCTCAAGTTAAAATACCAAAAAC

Sequence 530

GGTCTGTCTGAAGGAGTTGAAGCTTTATTCTATGAACCCTTCCAGGGTGCTGTTCAAGGC CCTGAAGAATTTGCAGAGGGGTTAGTGATTGGAGTGAGAAGCCTCTTTGGACACACAGTA GGTGGTGCAGCAGGAGTTGTATCTCGAATCACCGGTTCTGTTGGGAAAGGTTTGGCAGCA GGGCGGCCCGNTCTAGAACTAGTGGATCCCCCCG

Sequence 531

AACAAANCACNGGAGAACAAAACGAAAAACAGCAGGNCCCNCNNNNAAANCCAANNCAN ACAAAAANGNCAAAGNAGAACCAAAAGCCANGNGNCCCGCCAANAAAGCCNCCCCAAAAG AAACCCCNAANGNAAANGAAACAANCAACCGGGGGCCCCCCAA

TTTTTTATTCAATTTGCGATNGACAGNNNTAGNTTNAAATGTTNGTAACACTCTTAGAN

Table 1

NNCTGGTTTGTTCATTTGACATNGGGGCTGCACCAATTTTTATTACAAAAATCAAAAAAG

TAAAAATTCTTACAATATTTGCAGAGTATAACCACTAGTTGCCTAGACAAAAGCTAATT

CTACAAAATCAAAAACTTAATGCAGTTTTATTAAGAGAGTCAAAATTCTCTCAGTTAAC T

GGATATACATAGTGGTATATATCTTAAAGCAGAAAACCCCAAAAAAACAAAAACAAGGAAA AAAGAAAATACATGTCAACAGTCAGGTAAATATTTTGACCTGACAGGTTCTACAAATAGG GGATTTTCACTACATATAAAGGAATCTGTTACATGGGGGTAAAACTTCCAGAGACCAAGT AGGAAGNGGTGGAATAAAAAAACCAATAAATNCAAACGCCACCCCAGGCTGG

Sequence 533

CCAGCTGCTNGCCTGCAAAGANGAGCCTCCTNNGGGGGGGGGNAAAACCCCNCCCNANCC NGGANCTTGGCCTTCACANTNNCGATGGGGGGCACTGGGCGCCACCTCANGGGAGAAGGG CTTGCCGGGAAGGGNTNNCACGAAGAACTGCATTNNGACCTGGNAGCGGAAACCAGGATC CTGCCAATNTNTNNACCACGGGGCACCCACAGGGACACAAACAAGCNCACCCAACAAGC CAACCGCCCCNNCCCGNGGACCNGCCCG

Sequence 534

CCCGCGGTGGCTCTTGGGGCTAACCTCTCTGCAGATGAAAAAGCAGCTGAAAGGAGTTTT TGGCGNCACCAATAACCCTAAAACTGAAGCCTGATTACTGGAGTGACAAACTACNTGAAA GAAGCAGAAGCCGTTTGCTTATTATCGCCGGACACACACTGCCAATGAGCGGCGGCGGCG TGGTGAAATGAGGGATCTCTTTGAGAAATTAAAGATCACNTTTGGGATTACNTCATTC

Sequence 535

NGGGCAAAGGGAAGNAACAGACACACNCTNNTGGGGGNGGATNAAACCCGGGACCAGAGG CTCAGNGGNGGGAGAGANCCCTGCTTACCCACCAACCAGAACGNGGCCCGCCNAGAGGCT GGAACNGAGAGAAAGAANCNGGGGCTGGCNNAAGAAAANANAGACANNCNCACAAAAGCC NAGTNCATNTTTNNTTNCCGNNGGGACCGNNCACCCGCAGAAANANNNCACAANAGGCCG CCGGNCAAACGGGGGGGAGCACGGACNGTCAGGNCNCNGGGAAGGGGGCAGCGCAACCCG CAGGGCNNCNCCCCCCNGGCCNNNGGAGAACCAGGGCCCNNCNCAGGGGCCCNAGGGAC CGCCAGGCNGGNNCAGCCAGGAAGGCCAAAANCAAGAGGAGAAAGGAGAAAAGGNGNAAAA

Sequence 536

GGGGANCCCGCGGNGGCANATTGGGGGGGAACACACAGCAAAGANACGNNACAGCCTGAG AGCTTTCCTTGGGGGGGGCTTAAAACCCCCCGNCCGNCCATCTATCCATCCATCTGCTCAT CCNTNCCTCCATCTGCGCAACAAACGCNAGAGAANCAATCCTTGGGGCAGATACTGGGGC TGCCCTCAAGGAGCTNNNATAGAGGNCAGGGGACCTTTGNCGCTNTTTNNCTAGGGGANC Sequence 537

GGNCCCCCGGGCTGCAGGAANNCGANATNTNCTTTAGGGNGACCAAAACCCCC Sequence 538

Sequence 539

ATTGATTTTTTCTTGGTTTCTGGATAAACCACCCTCTGGGGACAGGATAATAAAACA

GTAATATTTTAAGAAGGAAAAAAAAAAAAAAAAAA

Sequence 540

ATTGGAGCTCCCCGCGGTGGCGGCCCCCGGGCAGGTACTTTATTTGCTAAAAAAATGCT AATGATATCCAAACCATCAGCTACTTGTAATCTTTTTGCTGGTGGAGGGTTTTGTCTCA

TTTTGGTGGCTGACTGATCAGCGTGGTGGTTGCTGAAGGTTGGAGTGGTTGTGGCAA
TTTCTTAAAATAAGACAACAGGCTGGGTATATTGCCTCATACCTGTAAATCCCAGCACTT
TGGGAGGCTGAGGTGGGAGAATCTTTTGAGGCCAGGAGTTTAAGACCGGCCTGGGCAACA
TGGTGAGACCGTGTGTCTGCAGAAAAATGAAAAGAAATTGGCTGAGTGTGGGGGTGCATG
CCTATACTACCATCTACTAGGGAGGGTAGGATGGAAGGGTTGCTTGAGCCCAGGAATTCA
AGGNTGGGCCACTGCACTCCACCCTGGATGGCAGAGTGAGATCCTGCCCTCAAATTTTAA
ATNA

Sequence 541

Sequence 542

GCCGCCCGGGCNGGNACAAAATGTTAAAGACGTTGTTTGTATNTGTAAGGCTGGTGTATT CAGAGAGCATNATCTCTTATTCCTCACTTTCCACCCCCGTATTTTGTAATGACCATGAT

AATGTTTNTACTTTTTGTNTAATGGGGTGGGGTGGAGTGGGGGCTATCTGAGAGTCANCC TGAGGTCTTTAGAGGACCANCTATTGTATCACCTTGGATACTTGAAGTTT Sequence 543

CAAANACTTTGGCCANANTAAAATNGNTGGAACTANAGGTTTCTTTTTAAAAAAAAGGAAG GGTTAAAGAAGCCAAACGGTNGCTTTTNGGGGGAANGCCANGAAAGAAAANAAGGGGGGA GNAAAAAAGGCCATGNCCATTCNTNTGCCCCTTGGNAATGGAAGCCCCANGGGGGGGNAC ACCAAGCNAAANNAAGAAAAGGCCCCACCTTNATTCTTCAATTTTTAAAATTCCTTTTA

CCAGAACATTCTTCTTTTGGCAACAAGNGGTCTTCCCCTTNGGGATTGGTCGGAAANAAA
TCACCCATTGGAAGANTGAGAGAGTNCACTGGGAAAAGCGGCCCACCTTATTCAGTCCCC
TCCCCTTCCTTGGCGTNTGGCAACCAAAAGNTTNTTCCTGGCGGGGCGTTGGGGACCCCG
TNTTTCAAACCAAGTAAGGAAGGGGCCTTTTAATTTTTTGGGGACCTTTATTAATGGCTT
N

Table 1

AGAAAAANGCAATNGGTAAGNGGCCTTTCNTTGNGGGNGAATNAAGGGGCCCCACGGAAA AGCTTTTTCCCCTTGGAATTGTACCCCGGCCGGNACCTTTTTCCNAANGCCCCCCTTNNC CCTTTANAAGGACCCCCCAAAGGTTGGNTNGGGCCCCCCC

Sequence 544

TCCGCGGTGGCGGCCGAGGTACCAATACTTACTTACAAATTTAATACTGCTTCAAGGTAT
TTAATCTAAAATTTTACCAACTTTGATTTGTCTGGTTAGGATATTTTGTTTTAGTGGATA
TGCTTTAATTCGGATCAATTACTGCAGTAAATCTCATCCCTAAGCATGAAATGTTGTCA

CAAATACCCAGTTCCATTTAGTTATCAATTAGCCCAAATAAGAGATACAAAGTATAACAG TGACCAACCTTGTACCTGCCCGGGCGGCCGCTCGACCACTGACATAGACTGAAAGCAAGA AGAGTGCTGTGTTTGTTGCTATATCCCCTCCAACACCTAAGGCAATGCATTTCACATC

GCTGAGAGCAGATAACCTCAATACCTGGGAACTAGAAAAT

Sequence 545

AGTGAGGGGTTAATTGCCGCCGCCTTGGGCGTAATTCATGGTCATAAGCNTGTTTCCTGT GTGAAATTTGTTATCCGCTTCACAAATTCCACACACATTACNGAAGCCCGGGAAGCCAT AAAAAGTTGTNAAAAAGCCCTGGGGGGGGGCCCCTAAATGGAGGTGGAGGCTTAAACCTT CAACCATTTT

Sequence 546

GCCGGGCAGGTACCTGATGCAGGGAATTGAAGCCAGACCCAAAACGGGCAACCCAATAGG ATGGCCATCTGCCCCATTAATGCCAGCTTGTCCAAGTGTAATTATTAACAGTGCCCCCTT TCACTCTCCAAAGAGTNCCTTGTNCAAACAGNTTAATTGTGGAAGTCGCCTTCAAGATGA CTGGGCGGGTAAAGGAAAGTGGGAGTGAGGGAAGCAGGGTAGGTGGAGGGTGGAAAGGG AGAGGGCCTCATCTCAGGGTGGCTTGGACCTGCACCAGCATCGGCCTGCATGAAATGTGC TCCTACTCTTGCCCAGGCTGAGTATCAAAGAGAAGCAAGAAATCTAGATAAAAATNCAAA TCCAGAAACA

Sequence 547

Sequence 548

GGCGCCGGGCAGGTCCCTTTGTAATATCCTTTATAATAAACCAGTAAATGCTGTTTCCCT
GAGTTCTGTGACCTGCTCTGGCAAATTAATCAAACCCAAGAAGGGGGTTGTGGGAACCCC
AATTTATAGCTATTCAGTCAGAAAAAAACAAGGTAAGACAATCTTGGGGCTTGCGACTGG
CATTGGAAGTGGGGGACAGTTGTGCGGGGGCTCAGCCTTCAACCTGTGGGATCTGACGCTA
TCTCTGGGTAGATGAAGTAGAATTGAACTGGGGGACACCCAGCTTGGTGTCCACTGCAGA
ATGAATTGCTTGCTTGATGTCTAGGGAGGCCGCAGAATTATAGCAGGGAGGTGAAAAGCA
CTTCTTATATAGCAGTGGCAAGAGAAAATGAGAAGGAGCAAAAGCTGAAACTCCTGATAA
ACCAATCAAGATCTCATGAGGCTCATTAACTATAACAAGAATAGCATGGGAAAGACTGG

Table 1

Sequence 549

NACCCTCTCAGCCNCCCTGTAATTGCGCNAACTNTGGAAACGCTGCAACGATTGTCGAGT CGTATAGCGTCTATGTACATATAGCATNTTCNATAGTCATTGGTGTAGAGATAGAAAATG CTTCGTACATGTCAATGGGAGAATGGGTGGTACCACTACACCGGAACTATCCCTAAGTCC ATCCGCCTGGGGCGAAAGGAAGGAAAAAAAGA

Sequence 550

NTATCTTGTTGCCTCATGNGGGCTACACCNACGCTAGNNAGCCCAATGAGACGTTACGAG
CGCGCAAGTNAGAAACNAGATTTCATAGAGCGCTTGTTGGGAGAGGGACATTCGCAAACC
GCGCGTTTAAGTTACTCGTAGATATTGAGTANNTAAGGNCGTTGGGGAAACGCAACCAAA
TACTCCTAGAGCCTTTGCCGNAACAAGNTACTACANTTGTTCNGGGGGAACGAAGGTGCC
CCGGNTCAACCCNTTGGCCCCCAAANAGCCCCAAGNCTTCCNTTGTTNGGGTATĞGCAAA
NNNCTTAACNGAACCACATTGGGCCAANGGNNCGCNANTGGNCCCCNTGGTTTTTATCNN
NCANTAACCCNANCNAAATGGGCGNCNTCCATAGGNAAACCTTGTTCCCNTAGCCCCTTT
NGATATTTCCTCGGCATTTTNTGGCCCCNTTTTCGCTTTNTNTAANCGCCANTTACCT
NT

AGCNCCCTTTTAGGCAACATCCTTTAAAAAGGGNGGGAGGGGTGTGGGGGAAGGGGGTTNCCCCCCAAANGCCCCTTTTGGTGTCGAATTTGGCAAGCCCTTTTTGGNAGGAACNA AAAGGGGGGGGTTGGGGANAACTCCGGCCCCNACCGCCCCTTTGGNCCCTTGGGTAAAAC TCCAAATNGGGGGGANGGCAACNAAAGGCCCCCTTCNTTGTNGNGNCANTNTTTGGGNA AAGAAGNACCCCAAGGNAAGTGNNCCCACCGGGGGGTTNANAAANAAAACCCCCCAAAGC CACCCAAGNGGAACTTACCCCTTANAAACTTTTTGGNATTANGTTNTAACNAAANNNACC CGNCCAAAATTTAAANAAAANANAAGGGCGGATTTAATTTTTTAAAATTCCNTTGNCCCA TTNGGGGGTGGAAACATNTAAAACAAATNTTAAAA

Sequence 551

AGTGGACTNTGTGACCTTGAAAAAGTCATTTAACATCTCTGAACCCTACTTTCTAAGTC

CTACAAGTAATATAGTGGGTGAGGTGTTCTTTCTTTGTTCTGNTACTNGGATGTGA

CTCTCCNTTTGGAGATGAAACCATGGCGTAAGTAATATAAAGACTTTTCCCTGTAGTT AT

Sequence 552

G

CCTTTAAATGNTTATCAAAAGAGTTTTCTAACCAAGGNGTAATACCCTTANTTCTTAAC

TTTNTTTTCTTTATGTGNTAGTTGTTTTCATGCTACCTTGTGTAGGGGAAAACCTTTAT
TTACAAGACNCATATTTANAAAAGGGCTANATTTTTAAAATACTCAANATTAATATTAAA
AAGGTTGGCTCCTNGAATTANNAGCCAAGNAAAATTANTATTTTACCAGTTTTTCAATT

CCCAACNANGAAAATAGGCCATTTCCCATAAACCCCAACCTCCCNANAAATGNAACCCCAAAGGGGGCCAATTATTTATTACGTTATTTTTTTGGGGAAGGGGGAAANTCCAANNGGGGGGT

Sequence 553

CGGGTGGCGGCCGAGGTACCCATCTCTGCCCATCACCGCTGGAATTTTGATGACCTATTG
GAAAAGATCTGGGACTATCTGAAACTAGTGAGAATTTACACCAAACCCAAAGGCCAGTTA

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Table 1

CCAGATTACACATCCCCAGTGGTGCTTCCTTACTTCGAGCGGGCCGCCCCGGGCAGGGTA CTTCACACCAAACACTAGCTCAAGCACTGACGTTATTCTACAGGACTATGAACCTTCATA TCCACATTTACAGTCCGGACAGATAAAGGAAAACAACCCAAATCCAGGAGGCAATATAAA AGGAAGAGAACAAACACACATTCATACACTCACACTTAAAAATAGGGGAAGACCAACAG GGGAACTTTTCGTTCTCTTGGGATGTCTACTTAAAAATCCCATGTGGGTACCT Sequence 554

NCGGGTGGCGGCCGAGGTACTCTTGAGATTGCTTTAAATTTTGTATTGAAACAACAATAC ATTTTGCACTGTAGTAATGGGAGCACTAACTCTTACAACAGTTAGTGAATCGTTTTAAA

AATCAGTTCAGTGTAGACATTTTGAAAAGATTGTTTCCTGTGCTCTACGATAGCTTAGT

CAATGTGCACTTCTGTTTTACTTGCCATTTTCCTGCTCTGTTTTCTCTGTGACATGAAG

С AACAGAAACTGAGATCAAAGTTAAGATTATATCCTGTTTGTAGTATCAGATATTTTTCT G

TGTACATTTACATTCAAGTTTGATAACACTGGTGGTTTCATTTCAATACAAATTATGCTA GAGAACTGACATTTTCANACATGGTGATATATATGCTATTTGAATTGCTTTATCTTGATA CCAGATCTTGGATTGTGAATCTCTTGATGATAGATGTGCAGCTAATTTTGTCCCGAAA CT

Sequence 555

GGGTGGCGCCCGGGCAGGTACAAGACCATGACACCGCCCAAAACACTTCCTGCAGA TGTTGTCGTTGGAAAACTGTCGTCTTACAGAAGCCAGTTGCAAGGACCTTGCTGCTGTCT TGGTTGTCAGCAAGAAGCTGACACCCTGTGCTTGGCCAAGAACCCCCATTGGGGGATAC AGGGGTGAAGTTTCTGTGTGAGGGCTTGAGTTACCCTGATTGTAAACTGCAGACCTTGGT GTTACAGCAATGCAGCATAACCAAGCTTGGCTGTAGATATCTCTCAGAGGCGCTCCAAGA AGCCTGCAGCCTCACAAACCTGGACTTGAGTATCAACCAGATAGCTCGTGGGATTGGTGG GATTCTCTGTCAGGGCATTAGAGAATCCAAACTGTAACCTAAAACACCTACGGTTGAAGA CCTATGAAACTAATTTTGGAAATCAAGAAACTTTTTGANNGNAAGTGAAAGGAAAA Sequence 556

TCTCAAAATAAAGAGGCAACGGCCTTTCTCTCTCCTCCATCTCTCTATAGCACACCTT

TATTTCTTTTCTTCTTTTTTAAGCCTCACGAAAGATTTTACTTGTAGATCAACTTTCAA **AATGTAGGAAGTCAGAATGGGTGACATCATCAGAAAAATATGTGGAGCTGATCACAAGAA** GTGAAGAACCCAGAGCACNGAAAGCGGTTGTGACTCCTGGGCCCAGGGAGTTGACAGCGT CTGGGCTTCAGAGGAGCCAGCCGCCTCCGAGTTGTCTTGGAAGTGAGGCTCTGCTGTAGT CCTGTTCTTCTGGCTCTAAGATCTGAATGTTGTGACCACTAATTTGCTNTTTCCTGGA GG

GTAACCCCAGTTTGGTCCACAAGGGCTT

G

Sequence 557

GAGCCCGCGGTGGCCGAGGTACTGGATGTCAGGTCTGCGAAACTTCTTAGATTTTGA CCTCAGTCCATAAACCACACTATCACCTCGGCCATCATATGTGTCTACTGTGGGGACAAC TGGAGTGAAAACTTCGGTTGCTGGCAGGTCCGTGGGAAAATCAGTGACCAGTTCATCAGA TTCATCAGAATGGTGAGACTCATCAGACTGGTGAGAATCATCAGTGTCATCTACATTCGA GCGGCCGCCGGGCAGGTACCGCGGGGGGGGGCCCCTACCGTGTGCGCAGAAAGAGGA GGCGCTTGCCTTCAGCTTGTGGGAAATCCCGAAGATGGCCAAAGACAACTCAACTGGTTC GTTGCTTTCCAGGGCCTGCTGATTTTTGGAAATGTGATTATT

Sequence 558

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Table-1

Т

CTCCCTCTGTTGCCCAGTCTGGAGTGCACGTGGCATGATCTTGGCTCACTGCAACCTCCA TCTCCTGGGCTCAAGCGATTCTCCTGACTCAGCCTCCCAAGTAGCCTGGGATTACAGGNT GCCTGCCACCATGTCCCGGCTAATTTTTGTATTTTTAGTNAAANACGGGGTTTCACCA

GCTGGGATTACAGGCCCGAGCCACCGNACCTGGCCTGTATTCCCGCGTACCTGCCCGGGC NGGCCNCTNTTAGAACTAGGNGGATCCCCCGGGCTGCAAAGAATTTCGATATTAAAGCTT AATNCNANTNCCGTCGACCTCTAGGGGGGGCCCCGG

Sequence 559

CGGGTGGCGCGCGGGCAGGTACGCGGGGGGGTGCCTGGCTCCGTTTCCTGCTTTTGGTT CTTACAGTAGTCGGCGTAGGCCTTAGGTGGGTTCGTGCGCCTTCTACCTCGCTGTTTCGG TTTTCCTGGCTCCTCGGCCCTTTTCTCCCCTGTTGCAGCTGGGAGCGGACGAAGCCGCGA AGCTGGGATTTTTTACTGTCTCCTGAAGAATTTAACACAAACATGGATATCAGACCAAAT CATACAATTTATATCAACAATATGAATGACAAAATTAAAAAGGAAGAATTGAAGAGATCC CTATATGCCCTGTTTTCTCAGTTTGGTCATGTGGTGGACATTGTGGCTTTA AΑ

Sequence 560

GCGACGCTCATACANGGCNTAGCCCCGGGAGGAACCCGGGGCCGCAAGTGCGTTCGAAGT GTCNATGATCAATGTGTCCTGCAAT

Sequence 561

CATGTGGGAAGCGCTGTGAAGAGTTGTTGCCTTNCAAGATATACTCCAAATTCCCAGTTC CAGCCGTGTCATTAAAACTCCGCTGGCGTGAAAGATGACATCCTTAGCCCAGCAGCTGC AACGACTCCGCCCTCCTNAAAAGGGGGATNCCAGCCTTTTAATNTANAGATGAANTTTG CCTTCCTTTGNTATTTT

Sequence 562

NNNAGCCGGGTATTCANCCTCTACTTCAAAGGCGGGTAATNACCGGTTTATCCACAGAAA TCANGGGGGAATTAACCGNCAGGAAAAAAGANACCATTGTTGTATGCCAAAATAGGGCNC

Sequence 563

AGGGGTNTTTTTCCCCCCCCAAAAGGGAAANACNCGGGGNNNCCCCNGNCCANAACCCG GGGGGG

Sequence 564

AAAAAAAAAAAAAGTCCCTGCC

Sequence 565

GNAGAAACCNCNGCGCCATGAGNTNTCAAGNGGAGGAAGAAGCGACCCGCGCANGCTGAA GCGCAAAAGAAGAAGANGAGGCAGAGGGCCAAGNAAACCGNNAGCNNGNNGCACCGNGG AGGCNTTNTNGNNTTTGNNGGGNGGAANGCNNGACGCCCNNGGAAGNANGAACNAAGAAG CG

Sequence 566

TTATTATACAGACGCATAACTGGAGGTGGGATCCACACAGCTCAGAACAGCTGGATCTTG

GTGAGGCAGAGGAAGCTGGAGCGAGGGTGCAACAAAACGTTCCAAGTGGGACAGATACT GGAGATCCTCAAAGTAAGCCCCTCGGTGACTGGGCTGCTGGCACCATGGACCCAGAGAGC AGTATCTTTATTGAGGATGCCATTAAGTATTTCAAGGAAAAAGTGAGCACACAGAATCTG CTACTCCTGCTGAC

Т

Sequence 567

GCGGNGCGGTTTTCGNCGAGCCCTCTCTTGNCCATCTTCTCCCGCTGCTGAAATTTCT
NTTGCGGGCGCTGNAANCCCAGGACCCCNCCCCCGCGTACGCTGGATAGCCTCNTGGCC
AGAAAGAGAGAGAGTAGCCGCGAGCACAGCTAAGGCCACGGAGCAGACATCTCGGCCCGA
ATGCTGGCAGCTTCAGGAATCCCCGCGNACCTGCCCNNTGCGGTCTGTTCGN
Sequence 569

ACAAAAACCCAAACCCCAGACAGCAGNAATGNCAGAAGANCCANGGAGAACAGCAGAANC
TNACACCGCNGCNCTCTGAAGGCTGAGAACACAAGNCAAANACATNNAACTNAAAAACAA
CCGCTGAGAGAACACGGGGAAAAATNTNCANTTTAGAGANGNCCACAAAAAAAGGACACGC
AAAGGGGAAGGCCAAGGCGGNGAGACAACGACGNNANNCNNGGGAAGACNGGGGAGGGGG
NGGAGAAGACCNNGGNNGCCAGAANNCCGGNCGGAGGNCACGAGGCGGNGACCCACAAG
GGACCNGCCCGGGCGGNCGGNCNAGAACNAGGGGAACCCC

Sequence 570

Sequence 571

CGGTGCGTTTAGGGACCAAACGATAGCNGTTCTGTTTAAGTAGGGACCTCTCATGGTNT
NCAGGCTNTGACAACCGAGAATCAAACTGGAGAACATTCCGAAGCCGTTCTTATAAGNGT
CTCCATCTCTACCTGGGCTGAAATGGAATGTGCAAATGTAGCCCAGCCTGGTCCTTGGGT
GTTGCCAGTTGATTGATGACTGGGAGCCAAAGTGGCATTTNCTTNGACCTAAACGGGCGA
TGATGAAATAAATCGAGCGGCCGCCCGGGCAGGNACATCTGTGAATGTGAATGCCAAAGC
GAAGGCATCCCTGAAAGTCCCAAGTGTCATGAAGGAAATGGGACATTTGAGTGTGGCGCG
TGCAGGTGCAATGAAGGGCG

Τ

Sequence 572

TGNAANNCCCCCGCCACGGAAAAGGNGGCCCCNGAGCCAGAGCTCCAGCAGCCCNGGGAG GGCGGGGCCCGAGGCANGGANAAGNGGGAAGGAAAACGAAGAACAGGAGCAGAANNGAAG AAANACAAAGNGAAANGGGGCCAGNCAGCATGTCAGAGACNGACCACAAAGCCCCCACNN CCACNGAAAAAAAAGGNGGGAAAACACCGGAANNAAAGGAAGACCCAAGCAACNNGGNNN CNGGCAANGAAAGCAGCAAAANAGAAAANGAGGCCAAACCAANGGCAANAAACACCG

Table 1

Sequence 573

GCCGGCGCCCCGGGCAGGAACANAGCACTNAGGNGNGNCGGAAACNCGGCANGGGAC AGGACANAAAGGAAAACANAAAAGANGCAAGGGGACACGACACANANGAAAGGNGAAGGG CAACGNCGACCAAACGGGGGNAGAAGACAAAAAACCAAAA

Sequence 574

Sequence 575

Sequence 576

GCGATTGGAGCTCCCCGCGGTGGCGGCCGAGGTACGCGGGGTAGGAGCCTCTCTCCCTAC
TGCTGCTACACAAGACCCTGAGACTGACCTGCAGGACGAAACCATGAAGAGCCTGATCCT
TCTTGCCATCC

Sequence 577

Sequence 578

CTGGTTCTTCCCGAAACTCCCAAATATCTATGGAGAGCTGTTCTAGCTTTTGCACAGGGA ACCAGTGGACAGAGGTATCATTAAACATGTCCATGTATTGNGAAGTCTGAGGAAACTCAA GCTCCTCCAGTCCTTTTAAAATCTTTGCAATGTAGGGATAATTTTTCTGCAGAATCCTT

CCAACAACCTCTCCAAGTCCTTTGAAACTGTTCCCAATGATGACCATCTTAGAAAGGG CATCTACTGACCAGTTACTCCATAAAAGATTGTTGTACCTCGGCCGCTCTAGA Sequence 579

Table 1

TTCCTATTTAAGCTTATAGGATGAAAATATATAATTAAAG

Sequence 580

GAATTAAACCCAATTTGGAAACAACATTGACCCAGTCAAAAGCTTCTAATGGTTTCTTT

TCTTCCTCCAGTTTTAGTTTGCTTTTATTAAAAAAAGAAAATAGTGCATGGCCATAGCT

CTTCAGTTCTCTTATTGCAGACTAACCATCAGGATGGTATCAAAGCACAAATACTTTGGA GGGGAATGCGTTGAACTGGGGCAAGTACCTGCCC

G

Sequence 581

CGTTGCGCTCACTGCCCGCCTTTCCAAGTCGNGGNAAACCTGGTCCGTGCCAGGNTGCAT
TAAATGAAATCGGCCCAACCGCCGCGGGGNAGNAGGGCCGGTTTTGCCGTTATTGGGGG
CGCCTCTTTCGCTTTCTCGCTTCACTTGACTTCGCTGGCGCNTCGGGTTNCGGTTT
CG

GGCTTNGCNGGTCGNAGGCCGGGTANTTCAAGTCNTNAACTTCAAAAA Sequence 582

NTNGAGCTCCCGCGGTGGCGGCCGAGGTACCAAATTGTTAAATACTCGNAGGCCTTTAG GAACCTGTGACTGANTNCATAAATANCAGANCCTATATTGTGATGNTGGTNAAAGGACAN

Sequence 583

GTGCTCANCTTCCAATTACA

ACCCTCCTGGAACCGNAATAAGTTNNTGGGGGGGGTNAAACCCNGGNCCACNGAATNNNC GGACCACANGANCNAAACTNAAGGNCTAGCTCANAGAAAGCAAGNGNCAAGCNGGGCANT AGCTGCTTCCCCTGGNGGAACATNGCCTGCTNCCTCATAANCCATNNCCAGACAAGC AAACATTNGTTNGGCAAAGCCGACANCNACNCCAACNACAAGAGACACTAAAGNGCNNGC NGGGGGGGCTNCCAGGGGAGANGAAANGGGAAGNCGGGCNGCAGCAACNCNGGNCAAAAA AAACACCAANNNCNGGGGCNCAANGGCACNAANCAGAACGGCNCGCCCNNNGGGANCCAC AGCNAAGAACCGGCC

Sequence 584

TTGGTTATACAACATTTGTTTAATAAATGCANTTTNCAAAGCTACACANGACTTAGATA

TCTCAGGCTTTNTNATTCTGATGCTGAGATAGTTCTGTTCACTTAGCAACTTGGGACA

GACACAGGGTTTGTTCTGTACAAGCAGGTTATCCAAGAGGCATCCATACCCTGGGTTTTC CTCCAACCATAAGGAAAATTGATGCAGCTGTTTCTGACAAGGAAAAGAAGAAAACATACT TCTTTGCAGCGGACAAATACTGGA

Sequence 585

AGGTACCTGGGCCACCAAACAGAGTGACTCAATATATGGGGAAGGTAAGTGTCCTCAG
TTTTTGGAGAGAGATTACCCTCTTCCAAAAGAGTGCTTGATTCTGGTAGTCCAAGCTGTC
TCCGTCTGGTGGCACCCCAATTTCCCCTGCCTAGACCCACCTCCTTTCCTCAGCCCCCTT
CGCCTGCCGCTGAAAAGTGAGAGCGGGCTCTTGCGTCCCCGCGTACCTGCCCG
Sequence 586

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Table-I-

Sequence 587

ATTGGAGCTCCCGCGGTGGCGGTCGGGTCAGCTTTAAAGCATCATAATGACTAATTATA
GGTGAATAATTTTACAGACAGTCTATATTCTAGGAGGCAGCTGTAGGCGTTTTAATTGGA
AATAAGCATTCTGAGATAATGATAATAGCAGTGTAGAAAAAATGAAGCTAAAAAAATTCAA
AGTGTTGAGAATCCTCCTGTCCTTCTGGGATTTTTATTTTAATCATCTCCTCCACAGAG

CAACTTAATGAAACCAATATCCTTCGCATAC

Sequence 588

GCAGAACAGACTTGCAGCCGACCAATTTTTGGGGGGATNAAAACCNAAANCCCGGANTNC
ACCTTTCCACTTTTTGAGGACANTGGCCAGGGGCNCTGGGCTACCCGATGACAAAGCAAA
NCAGCACAGCATCCCGAANCAGGGGAAGAGAGGGGGGGGGACANTGGCANAGGAAGGAGAA
CCCGAAGTGTNCCACAGGCNCAACNCTANNCCCNGGGGGGCGAANNCAAAACCGGCCGGG
NAANNCGNAAACACTGGAGGAACGNAAANCNCGGGGAAGCAGNCCCNGGCGAAG
Sequence 590

Sequence 591

TTTTTGAAATTTACTGACCTGGAAGAATACTCATAATGCAATGTCAAGTGAGAAGCAGGACAAAGA

Α

Sequence 592

AATTAAAAAAATTTTTTTTTTTTGTAAAGACTGGATTTTGCCATGTTGTCCAGGCTGGTCT

GGATTCCTGGCCTCAAGCAATTCTTCCTCCTCGGCCTCCCTAAGTGCTGGGATTACAGGC
ATGAGCCACCATACCTGGCCACTTCTTCATTCTTGTTGGCTTTGCGTNCCCGATTTAA

TTGGNGAGAAGTTCCTTCGGCTGGGCTGAGGACCCGNGGTCATGGGTGGATCTCATGGAGAGAGGGCNAGGACAG

Table 1

Sequence 593

GTGNATTGAGCTCNCCGCGGTGGCGGCCGCCCGGGCAGGTACATAACTCCCGCAGGATCT CAGGGCCTGCCGCCCCATTATGATGATGTCGAGGTTTTCATCCTGCAGCTGGAGGAGAG AAACACTGGCGCCTCTACCACCCCACTGTGCCCCTGGCACGAGAGTACC T

Sequence 594

CGAGGTACAGGTGCGATTCTGGATGACAAAAGAAGATGCTTACTTCACAGAAATTCGAAA
TTTCATTGGGAACAGCAACCATGGCAGCCAATCTCCCAGGAATGTGGAGGAGAATGAA
TGGCAGTCATTTTAAAGATGAAAAGGCTTTGTCGAGCGGCCGCCCGGGCAGGTACTTTNT
TTTTTTTTTTTTTTTTAAGGAGCTTTTATTGTTTTAGTAATCTTAACATAACTTAA
AATAAGAGAGGGGAAATGACATCTGGAGATCTAGGTATGTGGCCCATTGCAATTGAGCAC
ATTTCTTGGGTCTGTTTCTCTATCTCTAAGGGCAGTCTCAAAACCCCAGC

Sequence 595

TCCTTCCCAGAAANAGAGAAATTTTGNTNAAACCTTCAATNT

Sequence 596

TGAGCTCCCGCGGTGGCGGCCGCCCGGGCAGGTACTATTTAAGAAAAGAACAAGGTTAAC
TAACTAAAAGCAGGAACTCACTTATTTTTTGCTCCCTAGCCAATTAAAAATAAGTTCAT
T

AAAAGCACTTGAAATTATATTTAACCTGAAAAAAAAGTTGCTAAAATTCCAATATAAA
TGTAAATATCTTTAACTTGCTTAACCCAGCTATCCCCAAAACAGTGTAAGTGGGGCAAAA
TGTTCAAAAGAAAAATCATCCAGTGCACGTAAGATGGGGCACCCAAGAAGGCTAAGCCTT
CCTTGNGCCGCGTACCCTCGGGCCGCTCTAGAACTAGTG

Sequence 597

TGATGTTTATTTTAATGCATCTTAGTCCACACAGTTGGTATAAAATCAGAAAATGCAAA

CAAAAACAAAAGGTCTGGAGTCTTAGCATCAGAAGGGCACCATATATACATCTACAGTTG GNGGCCAATACAAGTCATTGCCAGACAGTCCTTGGAGGCACAGAACAGCCCAGACCCAGC CAAGCTCTAGGAACTTCACGGGTCCCAAGGGGTNTAGACCNCTTGTTCTNGATGCTCCGA ACCCGTAAAAAAAAATGTGGGGAAGTTGATGAAGGCTTTTATGATTTACTCATTATCCCC GCGTACCTNTGGC

Sequence 598

ATGACTGGCCTACCCCCGNGGNCCCCCGGTTCCACCGGGGTGGGGGGAT Sequence 599

Sequence 600

AGGTGACACAATGGCCGAAGGCTCCATGGCGGCTGGCTTCTTCCAGCCCTTCATGTCACC
GCGCTTCCCAGGGGGCCCCCGGCCCACCCTGCGGATGCCGAGTCAGCCTCCCGCAGGCCT
CCCTGGCTCCCAAGCCCCTCCTNCCTGGCGCCATGGAGCCCTCCCCACGAGCCCAGGGGC
ATCCGAGCATGGGCGGNCCAATGCAGAGGGTGACGCCTCCTCGTGGCATGGCCAGCGTGG
GGCCCCAGAGCTATGGAGGTGGCATGCGACCCCCACCCAACTCCCTCGCCGGNCCAGGCC
TGCCTGCCATGAACATGGGCCCAAGGAGTTCGTGGCCCGTGGG

Sequence 601

AGCNCTNAGCTCGACGCGAAAAAAAATAAATAAAAATTAAAAAATCTGTGCAATAATTT
TAAAATGTGCTCCCAGGAATAGACACAAATGTTTTGAGTATCTTTTAAGCTGCATTTTC
• C

TTTAGTGATGCATTTGTCAATTGCACTGAATTTAAATCTGAAAGTCAGAGGTGATTATT

CAAGATCGGNGCAGCGACGCTGCGGGCTACCCCCATGCCACCCATGACCTGTAGGGACCA
CCTCTAGATGCCTACTCGATTCAAGGACAACACCACTNTCTNCGCTCGANCTGGCCAAG
CTGAACCAGGTGGCAAGACAACAGTCTCACTTTTGCCATGANTGCACGGNGGGACNCGGA
TTCGCCGGAATNTGNACTCCAGCTCTCCAGAGGATGNAAAAGGCTANTGGGCAAAGTTTT
TGGGATGCCATTCTANCTCATAACCCACCCCANTGAAACTNCAACCCNATTTCNCAAANA
NAACNTTAAAATTGGGCTTGTNAATAAANTCCNNGNGCCGGCACAAAGGGCCGGCCCAAA
CCAT

Sequence 603

GTCCGGGAAAAATTACCTGTCTTGACTGCCATGTGTTCATCATCTTAAGTATTGTAAGCT

AATAAAAAACCTGTATATTTTACTTTGTTGNAGATAGTCTTGCCGCATCTTGGCAAGTT

AAAATGNTTTTGNTTTTAGNACCGNAGNATTCAATACNCCGGTTAAAAGGCANGGNAAAT TNGACCAAAAAGTCTTTGGCTTTTTTTTCTTGGGTAATTGNTTTCCTAAANGNTGGTTA

NTTGGTGGANCTTTTTTTAACCTGGTTTAATAANTTTAAAATNTGGCCCCAAATTAATT

NAGGTTTAAAAAATNATTAAGGNAATTTA

Α

Sequence 604

CCCGCGTCCGAGACAATACAAAGTTACATTTTTGGACCATATTAAAACTGCAAGAAGACA

WO 01/42467 PCT/US00/33312 106

Table 1

GGGGTCTTACTGAAGATCTTTTAGAAAACTTAAATCCTGTCACAGGATATTTAGACATG

GTAGAATGTAGCTCAATTTTTTAAAAAGTAACTGACCTAGAGGGGTGAAAGTTGAAACTGA CACATTTTCAAATTTAAGATTATGCTTATTTTGTACAGAAAACAATGTTTAAACACCANA GGCAGNATCTTGTTGTANTGTATATAAACGCTAACACCAGGAGTTTTTTAAAAACCANAA GAAACCCTGGGAGTTATTCAATTAATTAATTAAAAAACAGGGTNAGTTTTTTNAANACC

G

GNATTTTGGGGAACC

Sequence 605

CTCCCGCGGTGGCGGCCGAGGTACCCAAATACCACTTCAGGAAATCTGGCCAGATCACC TGAATCCAAATGTTCTATTAATTCAATACACGTTATCAAGTCAAATCCAAGCAAACGAGA GTCTCTCCACAACGGAGCCATGATACAATGTGATGGTCAAATTCAGATCCCGAGGTTT CAGAAAATCCCCCAGGAAAGGAGCTAACGAATCCCCTCTCCATCGTAATTTATCCTCATT AATATETACTECAACAAGCAATTCAATGCATGGATTGACTTTTTAGCAGCCTTAAGAGTGA AGTATCACCACATCCCAGGTCTGCAACCTTCTTAGGCTCATGTTGATCCACTAAATTTT

AACGAACTGGTACCTGCCCG

Sequence 606

CTNCCGCGGTGGCGGCCGAGGTACTTACAAATAATTACTGGCAGTAGGTTATAATTGGTG GTTTAAAAATAACATTGGAATACAGGACTTGTTGCCAATTGGGTAATTTTCATTAGTTG

TTTGTTTGTTTTGATTTGAAACCTGGAAATACAGTAAAATTTGACTGTTTAAAATGTTGG CCAAAAAAAAAAAAAAAAAAAAAAGGTCCGCGGGGGCGGAGGTCAGGGACAAGATGGTG CCACCGGTGCAGGTCTNTCCGNTCATCAAGCT

Sequence 607

CGGCCGATGAGAAGAAGAAGGGGCCCAAAGTCACCGTCAAGGTGTATTTTGACCTACGAA TTGGAGATGAAGATGTAGGCCGGGTGATCTTTGGTCTCTTCGGAAAGACTGTTCCAAAAA CAGTGGATAATTTTGTGGCCTTAGCTACAGGAGNAGAAAGGATTTGGCTACAAAAACAGN AAATTNCATCGTGTAATCAAGGACTTNATGATCCAGGGCGGAGACTTCACCAGGGGAGAT GGCACAGGAGAAAAAAAAAAAAAAAAAAAAAAAAAAAAGGAANGGTACCCTCNGGCNCGTT TTTAGNAACTAGTGGGATCCCCCGGGGCTGCAGGGAATTTCCNATATTNAAAGCTTTTAT TCTGGANTACNCCGTCCGGACCCTTCGAAGGGGGGGGGGCCCCCGGGTNACCNCAAGCC TTTNTTTGGTNTCCCNTTTTAGTNGGAGGGGGGTTT

Sequence 608

TTGAGCTCCCGCGGTGGCGGCCGAGGTATGCGGGAGCTGAGAGAACAGACACAGACCTG TCGGAAGGTCCTCTGCAGGTCCCCCTTCCGCTCTGCCGATCGACTTCCGCCTCGGGCAGT CAACATACTGCCAAGGAAATCTGATGTGGAAAGGAAAATAGAAATAGTGCAGTTTGCTAG CCGGACACGCCAACTCTTCGTTCGATTATTAGCTTTAGTGAAATGGGCTAATAATGCTGG CAAAGTGGAAAAATGTGCGATGATTTCAAGCTTTTTAGATCAGCAAGCCATCCTGTTTGT GGACACTGCTGATCGCCTGGCCTCGTTAGCTAGAGATGCTCTGGTCCATGCACGCCTGCC TAGTTTTGCCATCCCATATGCCATTGATGTACCTGCCCGGGCGGCCGCTCTAGAACTAG Sequence 609

CGCGGTGGCGGCCGGCCGGCAGGTACTTCCGCCTTGCCGTTAGCTTGTGGAGAACGTGC TTCTTATTCCTGGCAGGCTTCAAGAACAGCTGCACATGTGCCGCTAACTGACCGCGTTGC CATTGGCGACCTGGACTCTGAACTCAGGTTTATTCTAAACCCAGTGAGAGGTGAGGGGGA

Table 1

AAGCTCGACTCTCCCTTTGGTAAGTCCGAAGCA

Sequence 610

Sequence 611

GTGGCGGTCGAGGTACTTANGAGAAATTGGCATGCTTTGCTAATNTTTATGCAGAGGTAA CCATGTTGANNACATATGTANTGTTGAGAGGNATGTCTAATTTTATGGTCNTAGGAAAAA TTAAAAGAAAACTGCTGCTTTCCTGAAGTCTGAAATANAAATGTTTACAACTTGACNAGG ATCCATTTGGTGGCTAGNCTCGCCTTCCAGGGNGGNAAAGAGAATATGCCAGTTCTGTNG TATGGACTNTTCACANAAGCTAAGGNAGGGGNAGTTCCTTTCTTGGTGGNGACAAGTTCC TGCNCACTTAATTTTTCCCNTCCTGNCTTCNAAACCTGGGAAA

A

Sequence 612

GAGCTCCCAAGAAATTTTGTAAAGTTGAACATGCCATCTACTGCCATTCAAAATACTGCCAGTTTTCCAAGAATTTTGTAAAGTTGAACATGGCCATCTACTCTTGCCTTAAAACT

Sequence 613

CCAGAGNTAACGAAACATTCTTTATAAAAGGTTTGAACCCNCNGTTTNAAAGCCAANACCA
TAATTTAATTACAAANGGATAAATATGGTAACGGGTATTTACAGAAGGAAGGGNGTTATT
ACGGAAAAAGCTAACGGCACGACGTTTATTTTTCCCCCACAATCTTTCATACAGGAACTA
ACAAANTGAACTTGCAAAAGCACTAAAACATCACATGTAAACCCAGCTAACAGAAAAATA
CATTCACAAGCGTTGNTGGTGGGGGTGNGNATNGTGTGNGCTAAGGGNCAATGGGCNGAA
GAAACAGAAGGGAGACTNTGGCACGGCTCAATTCTTTCCAGNCNANAGNTACATGGAAGG
TTACAANCAGGGTGCCCCANAAAAAAAGGNACACCACTANTCAATACCCNCCAATACAAAA
AGAAAACCAATNTTCTTCCNCCANTACCTAAAAAAAGGAAACCCGGGGTAAAC

Sequence 615

CGGTGGCGGCCGGNCAGGTACTTTNTTTTTTTTTTTTTTAATTTTCCATGTAT
T

Table 1

NGCCTTNATCAAACTATAAGCTGNGGAGTGGCCAATATACTCCATTGNGATTATACACTG
ATTTCCATCACCTGCCTTTTTACTATCAACTCTTATTAGA

Sequence 616

CGGCCGAGGTACTGTGCCCTCTTTCTTACTAGGTGACCGAGAGTGGTTTTGACTCCTGTG
GGTGCTTGAAGTCATTCTCAGGGGTCTCTATGACCTTTTCCCTCCTGCAGTTCACTCT
AG

TTTCTTCTATTTCATCATCCCGCACTGCTCTTAGCATCGAAGTCACTGTCTGCATCTGG

AAGCTGCATTTAGGTACCTGCCCGGGCCGGNCG

Sequence 617

Sequence 618

Sequence 619

TTAGTATCTGAGTGGAAGTACCTGCCCGGGCGGNCGCTCTAGAACTAGTGGGATCCCC Sequence 620

GCCGCCGGGCAGGTACATTCTAATTTTTATGAGACATAGATATGTATTTATAAAAAGATA GATGGAAAGAGAAATTAACTTAATTCTAAGAGCCAAATTTACTCAGAAGGTTTAGAA ACACCAAAATTAACAGCCAGTTTTCTTGATTTTCTTCTTGAAGAAGAAGATTGGTGTTGC

Table 1

GATTGTGCACACCCCTGGTATTCCCCCAGCCATGGGCATGGTCCCAGAATATAAAGTAT GATGGAAGGGCTTCCAGG

Sequence 621

GGTGGCGGCCGAGGTTAAGGACGCCTGCCCATGACAGAGCCTCAGGAAATCGCGATGACA GTTTACAGCAGGAAAATCCGTGGAGACAGCAGATCCCGAGAAGCGGCGATGTTTGCGTAG AACCCTGTACCTGCCCG

Sequence 622

CCCGCGGTGGCGGCCGAGGTACATTTATTTAACATAAAAGGACAATAAGTTTACTTTGTA
TCTGAACTCAAAACAAAGTAGTTGTATATTTTAACATTCAAAATTGGGATTTCCCAATG
T

Sequence 623

TTCAGATTTGCAGACAGAAACAACAACAAAACAGTTAAGCAAAACTAACAATGGTCACA CAAATTATACAATTTCTGAGTGCTCTAAGTGCATTGGAAGAAGCTGAAACTCCATAAAA ACATCACCTGCCTTCCATCATCATGAAAGCAGGAAAACTTGCCTTCTTGTTGGGAGCAAG TAAAACTCCAAAAAAAAGAGGTGTTGTACCT

Sequence 624

CCGCGGTGGCGGCCGAGGTACGGCGGGGGGGCCGCCTGGATACCGCAGCTAGGAATAATNGGAATANGGACCGCGGTTCTATTTTGTTGGTTTTCGGAACTGAGGCCATGATTAAGAGGGA

Sequence 625

CTCACCGCGGTGGCGCCCCGGGCAGGTACAAACTTTGATCTTCTGTAAATGTGGTT GTCCACTNGCTTTTCTGTTTCTGTCACAGTAGCTATAAACAGCTGTTTAAGGATATCCT

ATCTAAATTTCTGCCAATGAGGACCAATCGATTTGTTCTCTCAGTGTCATCCTTCCAGC

CACTGGAGTCTCCTCNATCATAGAGCTCATCCCGCGTACCTCGGC

Sequence 626

Sequence 627



Table 1

Sequence 628

Sequence 629

CCGCGGTGGCGCCCGAGGTACAGACGACGTCACCGTATATCTTCTTTTCGGCCAGTGGA GGATATCACCGAAGAGGACTTAGAAAATGTTGCCATAACTGTTCGAGATAAAATCTATGA TAAAGTTCTGGGTAACACGTGCCATCAGTGTCGACAAAAGACCATCGACACCAAGACAGT GTGTCGGAACCAGTTGCTGTGGTGTGCGAGGACAGTTCTGTGGACCATGCCTGCGGAACC GCTATGGGGAGGATGTCAGATCGGCATTGCTGGACCCGGATTGGGTGTCCCCCCTGTC GTGGGATCTGCAATTGCAGCTACTGTCGGAAGC

Sequence 630

C

CGCGGTGGCGGCCGGCCGGGCAGGTACATAGTGTCGCGAACTCAAATCGGCATTTAGAT
AGATCCAGTGGTTTAAACGGCACGTTTTTGCTTATAAAAAAAGTGCAAAAAAAGTGTGGT
TTACAAGTTAAAGCTACAGAATCCCTTTTTGCTGTAATTGCACCAGTTTTAAAGCCTCT
G

GCAGAGCAGATTCGTTTAAAACTTTGTTTTTCTTAAAAGCTTACAGTGTTTGGCTAATT

Sequence 631

TTTGTCTTGGGCCCTGTAGGGACTACACTTCACCTCCACAGTTGTGACAATGTTAAAGTC ATTGCTGTTTGCCATCGTTTGTCCATCTCTTCTACAACAGGTTGCATCTTT Sequence 632

AGGTACCACACTCAGGGCAGTTTCCAGCTCCTCTCACAAACAGTAAATCTACACAACTTT CACAGAGAGTGTGTCCGCACACATTCACCATCAGCTTCAAGGAGGGGTTCCGATATTTGG TGGTCTTACACCGAGGGCAACCCTGATCGTCCATGGCGGTTTCCCTCCTACAGACTCTCG CAGGCGCCTGTTTCAGCCAGAGCCACCTACAAGCCCCCTCCCCGCGTACCACCACACTGT CCCAAATTACCTCTTCATTACCCAAATCAAAGAATCTTTCTGTTTTCCCAATCCTCAAA

GGAATGAAGAAAACCAAAGAGCAAACTCAAAAGATGATTTTTACCATAAACCTCAAATG TGGCTTAACAAGTACCTGCCCGGGCGG

Table 1

Sequence 633

Sequence 634

GAGCTCCCGCGGTGGCGGCCGCCCGGGCAGGTACTGAAAACCACTTCCAGAGTCTAAAG CAGCTCAGATGTTATCTCTGGGGGAATTAGTGTTCCCCTCATTTAGCAACCTCCATACCA CAAGGTCTCTGTCTGTAGTTACTGGGATTATCCAGATACACTATCAATGATACAAATTC

TAGGAGTATTAATGCATTTCTTTAAACACAACTTGATTAAGAAGCAAATATGTTAAGCA

TTTATTCTAACTCAGCACTTCAGAAGCCTTTTTGAGTTACAACAATATTTTAGTTTGCCT CATCTGTAGAGGTAAAATTTCTATATTACCAAGCTCCAGAGGAATATGATATTTTACAGG CACAATTTTCTGGCTGTAGTCCCTGGGGCATTCATTTGCTGGCCTCCA

Sequence 635

TGAGGATTTTTANGAAAAAAAATCAAAGGACTTGCCAAAAGGATAACTACATAACAGAT ATGACAATCTACAGGACAAAAAGACAACATGTCACCAAATATTGTTCATACAACAGCGTT AATGGAAAACAGTAAAACACCTTTTAGCAGTGTGCATGTTAAGTCTTTTAGTAAGATTA

CTGTAATGAGGTTTGAAAGTAAATCACTTAGTAGACAAAGTAAACCACCACAGAACCAGG AATAGCACCCATCACTGCTGCTTTGTCACTCCAGAAAGCTGAAAGTCAACCCGAACAATG AAAAAAAGTCAAAGAAGCATTTCCCTTTGAATTCAGTCCTAAAAATATGAATGCCTTATA ATTAATTTCAAAATAAGTATCTTACAAGTGTTTCATGAAACATTGGTTTT

Sequence 636

Sequence 637

AGCTCCCCGCGGTGGCGGCCGAGGTACAGGAAAGGGAAGCACAGTTTGGAACAACAGCAG AGATATATGCCTATCGAGAAGAACAGGATTTTGGAATTGAGATAGTGAAAGTGAAAGCAA TTGGAAGACAAAGGTTCAAAGTCCTTGAGCTAAGAACACAGTCAGATGGAATCCAGCAAG CTAAAGTGCAAATTCTTCCCGAATGTGTGTTGCCTTCAACCATGTCTGCAGTTCAATTA G

AATCCCTCAATAAGTGCCAGATATTTCCTTCAAAACCTGTCTCAAGAGAAGACCAATGTT CATATAAATGGTGGCAGAAATACCAGAAGAGAAAGTTTCATTGTGCAAAATCTAACTTCAT GGCCTCGCTGGGCTGTATTCCTTATATGATGCTGAGACCTTAATGGACAGAATCAAGAAA

Table 1

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Sequence 638

Sequence 639

Sequence 640

AGACGATTGAGCTNCCGCGGTGGCGGCCGCCCGGGCAGGACGCGGGGGCTGTCTCACCGG TGAGACCTGGAAGCGGGCGAGTCTGGTGGTGTGGGGAGGTGGAGTGGGGGTTGGGC CACCATGGAGTACCT

Sequence 641

CCCCGCGTGGCGCCGCCCGGGCAGGACGCGGGTCTTCAGAAACCAGGCTGCTTTCAGG
AACATTGCTGTGGATTCCCAGCTTTCAGACAACACATGACTAAGACAGAATGAGACCACT
CTAGTTGCCTCATGGGAAACTCGGGAAAAGACTGCAAAAACAACATTGTTTCTCCCTTTG
GAATTCTGGAGTTATAAGGCAGAGGTCCCCCATCTTCCCGAACTGGCCTATTCCGCTAGA
AGCAAGATGGCTGAACTCAATACTCATGTGAATGTCAAGGAAAAGATCTATGCAGTTAGA
TCAGTTGTTCCCAACAAAAGCAATAATGAAATAGTCCTGGTGCTCCAACAGGTTTTGATT

TAATGTGGATAAAGCCGTGCAAGCCTTTGTGGATGGCAGTGCAATTCAAGTTCTAAAAGA

Sequence 642

TCCCGCGGTGGCGGCCGAGGTACTTGGAGAATATTTCCACAATAGCCGATGACTTGTTCT
TGTTGACAAGAGAAAGTTCTTTGGCTGTTACCCTCAATGATAGTGAGGTCCATTGCCGTC
TATTAAATGGAGATGATTCCATCTTGTCTACAGACACTGAAATACCTGGCTAAAAGCCGC
CTTTCCTCTGCGCTGCTACCAGCCCTGTCACAGGTCCCGGCGCTCTACCTCCCCGCGTAC
CTGCCC

G

Sequence 643

GCAAGNTTTTTTTTCGGGCAGNCTGTGAATTTTCAACCTCCTTTTT
Sequence 644

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Table 1

CATCAAATTAGCCGTGGTGAGACTCCCCAGTTCTTTCAACATGTCGATGTCATCACCGTTC TTCAGCAACACCTGGTAATTGTTCTGGCCAAAGATCTGGTGAGGCACGGTCAAGTTTTTC AAAACTTAGCAAAGATGCTTCCAGATCTGTCCCCGTCTGTGGGAGACGCCATCTTTCAAC CCATGTCACGTCCCGCGTACCTGCCCGGGCGGCCGCTCGAGCCAGGAACCGTAAAAAG Sequence 645

CCGCGGTGGCCGCCCGGGCAGGTACTTCAGGGAGGCCTATATATTGGCACCCAAGG AATGCCAGGACTGCCACCTGCTCCAGCGTTAGCCTCACTCGTGTGCTTACTCACTTT GACTGCCTTTTTGTCTATTTCTGGGAGGTTGGTAGAATGAAAGGGATGCTCCAAGGCAAG CAGATGGCCTGTCCACCTCCTATATATTGACAGTGCCAATGAGTGTAGAGTCTTGCTACA AGAAACAAAGTCATGAGAAATGCCAGGCTTCCTGTTACACCCAAAGACTGCTGGCCCTCC TACTCTATCCTTTAGACCAGAAACTTTTTCTTCTAAGCACTTGCCTACCGGGAAGGTT GA

GGAGTCTTGTTTTACCGTACC

Sequence 646

TCNCGCGGTGGCGGCCGAGGTACCGGCCAAGCCTGGTCCCCTTCTTGTTGGGCACTGTGT ATGGGCGGAGAAAATCCANCTTGTTCTTGCTGATGACGCAAAGGTCAATGTTGCTTCCGG AGCCCAGGTTCACTGAAGATTGCCANNTGCCGATGGCTTCGCTCACCANGATTCTNGGCT

Α ANNGAGACCAAGAACCCATNNGGTGACCACTAAGGGCAACTTATCAGNTTTGATTNCAT GAAGGGATAGGATGTCTTGTATTAGGGTNGGAGAGTCCCAGGTAAATCTATGCTACTNCC CCCCTTAANAACCTNAGNNTCTNGCAACCCAATTNTAAACNNTTTGNATACNCTTGAAAA AAGGCATTCTGNCTTTTNAGCNATCCGATTTGGCCTGTNCACAAACTCTGGGGGAAAGAC TGGTCCAGTTGNNAGAAGGGGAGTTGGGAGCNTCCAGGTTTGGAAAAGNAAA Sequence 647

TACACAATATGTCAAAATATTAAAGCTTTTTTTTAAATTGGGAACNCTCAGGATATTGG

ATAATTAATTAGGCAATGATNCAAAGATGTTTTGTTTTAAAATTCANAACCCNCCAAAG

С

CCCCCNNTNTTTTTTTNCNGGGGGGGTTTTTAANAAANGGGGGGNAAAAAAANNGNGN

Sequence 648

TTT

TTTTTTTTTTTTTTTTTTTTCCCNGGGGAANNCCCCNTTNTNNGGNNTTT CCCCCNNNGGCNCCNANANGTNAANCCNNCNNANCCNNGGGGNNGGGGNCCNCNNNNCCC NNNNGNGNNNNAANNNGGNTNNGNGGGNGGGGNAAAAAAGGGGGGGCCNANGGGGNCCCC NCCCCNTTTNNCTGGGGGGNNAAAAAANGGGNCCCCCCCCCGNNAAATTNGGGGNNNT NAAAAAANANGGGGNCCCCCCNGGGGGGGGGGNNAATNTAANANAAAANTTTTNNTNCC CCCCCCCCCCNGGGGGGG

Sequence 649

TTGACTCCCGCGGTGGCGGCCGAGGTACACGATAGGAAGAATGTATATTCTGTGGTTGTT

Table 1

CTTCTGCTGTGCAGTAGGGGGCATCAATAGTTCATTTTCTTTTTATTGTCTGCTACCAT

CCATTGTATGGATTCAACCTAGTCTGTTTATTCATTCTCCCAGGCTTTCCACCAGGCC AT

CTCTTTCACTTCGGGGGCACCTTTCCCAGGGAGATGAAGAGACACAGGTTGGCCTCTGCTGGGACTCCACATGTCTCCCCGCGTACCTGCCCG

Sequence 650

C

П

TTGACTCCCGCGGTGCCGCCGAGGTACTGAGTGGGGAAGAAGGTAAGAAACACGTTGAT
TAACACCCTGTGTTCTGGCAGGTGGGATCAGCAATATGTAATCCAACTCACCTCCATGTT
CAAGGATGTCCCTCTGACTGCAGAAGAGGTGGAATTTGTGGTGGAAAAAGCATTGAGCAT
GTTCTCCAAGATGAATCTTCAAGAAATACCACCTTTGGTCTATCAGCTTCTGGTTCTCT

CTCCAAGGGAAGCAGAAAGAGTGTTTTGGAAGGAATCATAGCCTTCTTCAGTGCACTAGA TAAGCAGCACAATGAGGAACAGAGTGGTGACGAGCTATTGGATGTTGTCACTGTGCCATC AGGTGAACTTCGTCATGTGGAAGGCACCATTATTCTACACATTGTGTTTTGCCATCAAA

GGACTATGAACTAGGCAGAGAACTCGTGAAACACTTAAAGGTAGGACAGCAAGGAGATTC CAATAATAACTTAAGTCCCTT

Sequence 651

GACTCCCGCGGTGCCGCCGAGGTACTGCGTTATGCAGAGGTGTCCAGCCCCCTTCCTCT
TCCTGGAAATTAACATTGGCTCCACCTTCCAGCAATTGCTGGACCAGGTCAACATCTTCG
TTTTGAACAGCTTTAATCAGCAAGTGATTGTCTTCCACTGCAGCCCTTCTACCGCTGGAG
GACGTGGGTCCCTCCTGGGGGTTGTTATGATCCCTGCTCTCCATGACGGTAAATGCCACC
TGCTACCACTTTTAGCCTTTTCCTTGAGAAAATGCAAATTTATCTCCTAGCACTTAATC

AAGAAGCTTTGAGTGTAAATTGGGATTCTCTGGCAACAGAGCAGCAGCAGTATGAAGAAGGAA CAATGTTCTCAGTCTTCTGACATTCCACCTGCTCAACTCAAGACGTCTCAATTATTCCT

Sequence 652

Sequence 653

TCCCGCGGTGGCGGCCGCCCGGGCAGGTACCTGTGAACTGAGGAATTATAGATAAACCTT AGGTCAAATCATTTCGCAATTGCATTGGTGGTATTGAAAAATGATGAGAATTTCTCTGACA GAGAGCTTTGTCCTAGTTTTTGTTCTTCATAGGTCAAAACTGGCAATATTCTCTTGTCT

CAAGATAAAGTGTTTGTGCTTCTATCACCATATGCATGAACATGTAAGAATCAGATACAA TTTCTGCTTCATCAGTTTCACATGTTCATGTTGTCACTGAAAAAATGCATCTACTGTTT

TAGCTCCCAAGGAGACCCCAAATCCTTTTTTTCTTTTGAGATGGAGTCTTGCTCTTGTT

CCCAGGCTGGAGAGCAGTAGCGCGATCTCAGCTCACTGCAACCCCCACCTCCTGGGTTCA
AGGTGATTCTCCTGCCTCAGCCTCCCCAGTAGCTG

Sequence 654

Sequence 655

Sequence 656

Sequence 657

ATTGGAGCTCCCGCGGTGGCGGCCGAGGTACATTCCAATGAAGAATTTCTTCATTCTGA TCTCCTAGAAGACAGCAAATACCGAAAAATCTACTCCTTTACTCTTAAGCCTCGAA Sequence 658

CACGGGTGGCGCCGAGTACCTTGTGGGCATTAGGTCANTNTTGTTATACACTTTCACAA
AAGATTTTATCTTTGATCTCTTGGCGATCTTCTTCTTGCCCATGGCAGCTGTCACTTTG

GGGGGTAGCGGTCAATTCCAGCCACCANAGCATGGCTTGTAGGGGCNATCTGAGGTGCCA
TCATCAATGTTCTTAACGATNACAGCTTTGCGTCCGGAGTAGCGTCCAGCCAGGACAAGC
ACCACNCTTCCCAGGTTTCATGAACTTGCCCATTTCGGCAGCAACCACCCCGGGGCNCTA
CAGCAAAAAAGGCCCCCGGCTGTACTCTGCCCCGGGGCGGGNCCGCTTCTAAGAAACTAG
GTGGGANTCCCCCGGGGCTGGCAAGGNAATTTCCGAATATTCAAAGCTTTATTNCGATA
ACCCGTCGGACCCTCGAAGGGGGGGGCCCCGGGTTACCCCCAAGCTTTTTT

Sequence 659

CTCCCGCGGTGGCCGCCCCGGGCTGGTACGCCCAAGGCATTAATGCCCACAGTAACA GGGCTGTTTGACAGTGGCAGAAGAGGACGGGACTAAAGTTACTTTGTGCTGAGAGGGGGA AAGAAGCACAAAGTTTGGTCTGTTGCGTAATTGAATTTTTAACACTCTTATCCACAACA

ACACTTTTTCGTGTCCTGCTGTCAAAGACATCAGATATATTACAGATTTTCAAACAG

Sequence 660

Table 1

CGGTCTCTGTCTTGGCACCTGCAGGAAACAAGCTCCTACTTCCAGAAAAAGTGCTCCTGG GACTCCAGGATACCAGGCATCTGGGTAAGCTACAATGCTTAACCACTTAACACAATCAGG AAGCAACAGCCATGCATTCGGGGAAAGGAACTTCAGTGTTGTGTGGCTTAGTCTCCAGAC CTAACTTTTCTTTGGTACCTCGGGCCGNTCTA

Sequence 661

TTGGAGCTCCCCGCGGTGGCGGCCGAGGTACGCGGGAGACGACTTTTTTCTCACCATGAA TGTCACCCCAGAGGTCAAGAGTCGTGGGATGAAGTTTGCTGAGGAGCAGCTGCTAAAGCA TGGATGGACTCAAGGCAAAGGCCT

Sequence 662

TTT

TTTTTGGNCNANANAACNAGTTTTTTNAATTNATTNAGGGGGAANGNGGGGNGNCTTTG GANAANCCNCNNNGAGGGCTNTNGGGGNGTNTCCNGNGGCNNGGGGGNNAGGGGTNGGGG NCTNGGGGNGGGTTTNAGGGGCCCNNGNCCCNNGGCCNCTNTAAAACNAGGGGANCCCCC GGGCNGGNGGAATTCGATNTCAAGCTTNTNGANCCCNCGCCCCCGGGGGG

Sequence 663

Sequence 664

TNCGGGTGGCGCCCCGGGCAGGTACGCGGGGGGGGGGGTATCTGTATCGGGCCNTACTGG CTTNANGNGCNNNATTCCCTTCCNNGNCCCCCCCNGGGGGNCCNCAANTAAGGGTTTNGG ANCCNCTNTTTTTTNATCNCGNCAGCANCTTAAAATGCCTGGGAAGATGGTCGTGATCCT TGGAGCCTCAAATNTACTTTGGATAATGTTTGCAGCTTCTCAAGCTTTTAAAATCGAGA

CACCCCAGAATCTAGATATCTTGCTCAGATTGGTGACTCCGTCTCATTGACTTGCAGCAC CACAGGCTGGGGAGTCCCCATTTTTCTCTTTGGAGAACCCAGATAGGATAGTCCACTTGN ATGGGGAAAGGTGACCNAATGGAGGGGGACCACATNTTACGCTTGACAATGNATCCTTGG TTAGGTTTTTGGGGACCGAACCACTCTTAACCTGGTGCCCAAGCAACCTTGGNGGAATCT ANGGNAAATTG

Sequence 665

GGGTGGCGGCCGGGCAGGTTTAATCTCAGGTCTCCCTCATACACTTCTCAGCCTCA GCACCTCACCACCACCACCACCACTATTGATGCAGTCAATCTTGTATAACATTTTT

GAATGTCCAATGTGCAAAGCACGATGTTGGAAATTATACAGAGGTGAATAAGACAAAAAC TCTTGCTCTCAAAGATGTCAGTCTTTTTCTTTGCAAGGATAACACATGTAGAGTAAAAT G

CATAAAGGGGACTAATTTTAAATGTACCT

Sequence 667

GGCCGAGGTACTGGAGAGTCGGCTTTGACCATGGCCTCAGCTCAGCTCCAGGTTTGGAGC GGAATAAAACAGGAGCTAGCAAGATGTCTCATCTGAGCTTCCCAGTGCCCAACTTATCTG AGGCCTGGGGCTGAAGCCAGCGCTGACGGAT WO 01/42467 PCT/US00/33312 117

Table 1

Sequence 668

GAAGTCAACCTAATACTCTGGTGCTTACTTTGCAAATCTTTTCCATAAGTCAAGTATTA G

TGTTAACAATACACTTAAGAAGTAAGGATAAACCCATCAAGGTCCACAGCTAAATAACCA GCAGATTCCCAGAAACTTTATGTATTTGGGAAAAGTAAAATATACAACAGACATATCCCT GCCCTGATTAAGAGGGTAGATAAAAACAAACATAAAACAATTTTACTTGAGATAGTAAT **AAGTTATTTGAAA**

Sequence 669

GGATCAATAAAATCTGTGTGTTACAGCGGCAGACTGAAGGACGGGTGCCTGTTTTCAGCC ATGAGGTAGTCCCTGACCATCTGAGAACCAAGCCTGACCTGAAGTGGAAGAACAGGAGA AGCAACTGACGACAGATGCTGCCCGCATTGGTGCAGATGCAGCCCAGGTTGGACTGAGTC ACTGCCTTGCTGCCCATCCCCATCCCATCATGAGAAGCTAGGCATTACCATTCCTGTCT AGTAGGGATACATAGTTGCTTGCGCCTAAGTTGCTTCTGGCAGAACCCAAGGAATAAATT TCTCCATATCGTTTNCTAGTTACCCTAATCTCTGCACAAATFFTGTGTGTGACAGAAGC Α

GATCCAGAGCTTGAATA

Sequence 670

TNCGGGTGGCGCCCCGGCAGGTACATTCTTTTTTTTTTTAAACTTTTAGGGT CT

TGCCTATTTGCATCCTAAGGGCAAAAGGCTTAGAGATATCAANGGGGCTAATNTTTTATN GNCAGACCATGGCGGATGTAAAATTAGCTGCTTTGGTGTGGGCTGCAAAAATAACAGCTA CCATTGCAAAACGAAAATCTTTCATTGGCACCCCTTACTGGATGGCCCCAGAAGTTGCAA GCAGTAGAGAAGAATGGTGGCTACAACCAACTCTGTGATATCTGGGCAGTAGGAATAACA GCAATTGAACTTGGAGAACTTCAGCCACCTATGTTTTGATCTCCACCCAATGAGGGCTCT CTTCTTAATGGCAAAAAGTAATTTTCAGCCTCAAAACTAAAGGGCAAAACAAAATGGGC

Sequence 671

GCTCCCGCGGTGGCGGCCGAGGTACGCGGGGTCTTCTCATGCTCCGTGATGCATGAGGCT CTGCACÁACCACTACACGCAGAAGAGCCTCTCCCTGTCTCCGGGTAAATGAGTGCGA Sequence 672

TCTTTTCGAACCTATACTGTCTTCTGTAAATTCTTCTTACTACCCCTATGACCCGTGAG

CAACCACTTTCCGATGCCAGGGTTCTGACACCTCACCTGGCATAATATAAAGTGTTTT

TTTTATACCCTTCCACTTGGAAAGACTACAGAGGAATCTTGCACTGCATAGTTCAAACTA AAAAGAGAAGAGTTAATTACETGAAAAGCAAGAGAAAACAAGGAGGGGGTAAATTTTGAAC CAAGGGAAATCATTTAAGAAGTGTCTGGTATTTTTCAAATTTCTGTCAGTTGTTACATT

GTCATAAGTAAATGTTTAGGAATAAAGGATGGAQACATGCTTATTTATTTAACTCCCC

CNAAAAAA

Sequence 673

GGATTGAGQTCCCCGCGGTGGCGGCCGTGCCTCTTAATCATGGCCTCAGTTCCGAAAACC -AACAAAATACGAACCGCGGTCCTATTCCATTATTCCTAGCTGCGGTATCCAGGCGGCTCG GGCCTGCTTTGAACACTCTAATTTTTTCAAAGTAAACGCTTCGGGCCCCGCGGGACACTC **AGCŤCCGCGTACC**

Page 117 of 221

---Table 1

Sequence 674

AGCTCCGCGGTGGCGGCCGAGGTACTGAAGCCCACCAGTGTCCGGATGGAAGTCTGCAT CTGAGGTTGCTCAGTGTCCCGGTCATTCATTTACACATTTTAACTTGCATTAAAGAGCT G

Sequence 675

NATTGAGCTCCCGCGGTGGCGGCCGAGGTACGCGGGGCTGTAGTGGCTTCGTCTTCGGT
TTTTCTCTTCCTTCGCTAACGCCTCCCGGCTCTCGTCAGCCTCCCGC

Sequence 676

Sequence 677

TCCCGCGGTGGCGGCCGGGCAGGACGCGGGAAGGATTCTGTAAGTATGTAGCAGTG TTTCTTAGGTAAAAGTCTCTTTTTGCTACTGAAAGGGAAATGGTCTCTAAACACTGGTC

Sequence 678

GCTCCCGGGGGGGGGGGGGGTACTTGTGGCATGACGTCGATGATCGAGTTCANGGCT NTCTCCANCTNGGNCNACATGATGCCCACGGNCTNGCCCCACCAGGTCTTNTGAAAGACA GNTGACANGAGACATCCNCGCGTACCTGNCCG

Sequence 679

NCCGCGGTGGCGCCCCGGGCAGGTACTGGTGTTGTGATCGGAACGTGTCGATCCCCT
CTTCTCATCACTGCTCCCAACTGGATTTATTACTCCGGGAATGGTCTGAGGGGGAAAA
CCAATGTGTTTAGCGTGCCTGCCCACCTGCGCCTGAGCACAACTATCCTGCAATCTGACC
TGCCCCTCCTGCACAGGAAACCACCTTCCCCTCCCAATTGATGGTTCAAACACTGCCACC
GCTGACTGCCCTGCATCTGTGGGTCTGTAGAACAGAAAGGCAGAACAACTTATTTTTTAG
GATTTAACGACAACCGGTTGAAAAAAACCGGTAGGGGTGTCNTGCTCACAGAGAATAAAG
ATTTGTAGAAAAGGNGCTGAACTGCCAAGGAAGGCATTTCTTGTGCCGTGTCTGGAACCG
TGTATCCTTACTACATCACTGAACGACACCAAAGCACCCCATGCACTTTTTGGGTCCAAC
CT

Sequence 680

NATTGAGCTCCCGCGGTGGCGGCCGAGGTACAAGGGGAGGTAATGATGGGAGCTCCACT CCTTGGACCACCAGCTGGTTCTGGACCGTATCCCCATGAATCTGTTTGAACGTAAGGAGG AAGTCAAAAAAGTTCTTATTTAGGGTTTCTTTGAGATGTGGGGCCACTTCCATTCCCA CC

CGGCACAGGTAGGCACGGGCATACACCGACACTAGTGGGTCTCCGATCCCTCTGATCATG CATGTCAACCGGGGCAGGCACTCTGAAATTCCCGTTTTGGAGAGGAATTTGTTACATTTC

AGGATGGATGCCTCCACGTAAAATCTTGGAATGAGTTCCCTGATGGAGGCAATCTTGAAA AACCAATTTAGGCATGTTTCCTTGGCCGTGTCATTTGCATTCTCTGGAGAAAAGTGAT CT

GGTAAGACGCTGCGGCTATCCACACACACATGGAAAAGATGC

Sequence 681

GCGGCCGAGGTACCCTAATGTAGTAGTAAATTTAAGGCCTGTCGAGGAAATTTTAACACT
TCCAACAGGTGACTATATCAGGAAGGAGAAAACCAAGTGCTTCCTGCTTCACCTTCTGCT
GCTTTTGGGACTTTTTATGAAGCCTAGGTAGNCTNAGGACANGACCCTGAACCCATTTTT
TCACTGGGAGAGGAAAACCACCAGGCTTCTCAGCTATTGGCTTGGCAACTCTTGGAGTTC
CTATGGCTTCCATCAGGGGCTCCAGGCCCTGATAAGTGGCCTCAGGCCAGGNAGGGAGGA
TTCGGNGTAGCCGGGATTGGGGGAGCAGCTAGGTNCAGGGAAGGNTGGGAAAATAGGGGAC
CCANTCCCCCAAAACCACCGTTTGGCCGCNATGGATGGAATTTTGGAGGGGAACTGGGACC
GNTAAGTTTCTGGCATTGCCTGGCCGGNTTGGGATGCCTTCTTCGGGACTGGCTCCCAGG
GCCGAATNTTTTTCAGGGTCTTGCAAGCCCGGCT

Sequence 682

TTGACTCNCCGCGGTGGCGGCCGAGGTACTCTCGTTTCAGCTGGGCTCTTATGGCCAACC GCTCGGCTTGCGCCCGCGGGTTTCCGGAGATATGTTGTATTCGGCTGGGTCGAGGGTCT CAGGCAGAGTGCGCAGGCTCGACGGCTTATACTTTGGGAACGACATCTTGGCGAACCAGG GCACAATTGCGCCTGCGCGATTCTGAGGCCCTTTGTCTCCCCGCGTACCTGCCCG Sequence 683

GCGGTGCCGCCCGGGCCGGTACGCGGGATGCACATGCAGCGCAAGTAGGGTCTAC
AAGGACGCTACTTCCCCTATCATAGAAGAGCTTATCACCTTTCATGATCACNGCCCTCAT
AATCATTTTCCTTATCTGCTTCCTAGTCCTGTATGCCCTTTTCCTAACACTCACAACAA

CCGCGGTGGCGGCCGAGGTACCCCATGCAATATANTGGCTCTACAATCCTCAGCATGTTA ATCGAAGCCTTGTTGAGCTTCACAAAGGTTCCATTGAAGATTTGACNGAAGGCGAAGAAG CTGCAACACCTTTCGAACCTTTGGGCTCACTCCATTGATACCTCTGATTCTGATGACAAA CGCCAATTTGGGTTCTGCAGGTACGAGGACATTTTGCCCCGCGGCTTGTTGGGGTCTCCT TTACCCATGTTGACAGATCCGCGTCCACCCGAGGGTATTGGAGGGTATTCTTGCCTGGTG CGAGCTTTTCCTCAGAGTCCCGCAGAGCGGCCGCTCTAGAACTAG Sequence 685

GGG

Sequence 686

Table 1

CANNCTTTATNAAAAAAGGNCNTAANGGGCCTNTTATTAAAAAAANGNNTAAAANCCCCAN AAATTCNGGGCCCCNGGGCNGGGCAGGGNTGANANCCCTTAAAGGG

Sequence 687

GCCGAGGTCGCGGGGCTTACGATGGCNACAAGTATGCGGCTGCTAGTGGTACGATTTG
AAACGTGCTGAAGAGTATCGAAGAGCGGAAAGAACAGACCCGGAATGCCAGGGCCGAGGT
GTTGCGCCAGGCTAAAGCCAATTTTGAAAAAGAAGAAGAAGGCGTAAAGAACTTAAGCGACT
TCGGGGTGAGGATACATGGATGCTACCTGATGTGAAT

Sequence 688

Sequence 689

CTCCCGCGGTGCCGCCCGGGCAGGTACAAACTGGCACTGGATAGGTAGTTCCTTT
GGTGGTCAAGGTGGCTCTACCTGTCCTTGAGCTCTCGTGTCACTCGCTTGGTGATCCGTC
CACACATCAGGCCAATCAGGAACAATATACAGATGCTCCCACTGATCACAGAGAGAATGT
AGTTCTTAGATGGAGACCACTTACTTGCATGGCAAGATCAGAGAAGCCATCTGCTGGGG
CCACCTAGAATGACACAAGGCAATGTGATTCTCTGAGAGAGCCACTGGGCTGGTGGCAGTG
CTAGGTCTAACTTATCCCTCTCAGTTCCTAGTTTAATTTATGTCTTTTTGGAGAG

GAGGGGCAGGAGATAAGAAAATCAACACAGAGCTACAACTCTTTTTCCTGGATCATAAA ACTATACCCCACGTCTACTGCACCAAAATTAGGAA

Sequence 690

TATTCATTGCTCCATCGATTGGATCCAGTCCTTGTTCAGAAAATTGTTTCAAGGCACTT

AGGCTGCCTGAAAGCCTTGAATCCTTGCTAAATATTCCAGTTGNTTTGAAGGTTGTACCT Sequence 691

GCGGTGGCGGCCGAGGTACTACAGGAAGAAACTAGAGGAAACGGGAATTTCATCCATGTC
CTGTGTATCTGCTGGCAACAGGTCAGAACCGGCCAGTATGTTATTCCCTGCAGGCTGCCT
AGGGTGCTCTCCTCAAACAGATCACCTGAGCCTCCTGCATCTATGAAAGTTATGACACAG
CAACCAGTTACTCAGAGTCTGATGAGAAAAACAGATTTTAGGTTTGGGAAATGGGATTAC
TGTAATTTACACATCCAAATGCAAACTGGAGCTCTGATTTGAATTCTACCCTGGGGGAAG
AACTTTGATGCTAACCCAACAAGGTACCCTGCCCGGGCGGCCGCTCTAGAACTAGGNGG
GATCCCCCCGGGCTGCAAGGAATTTCGATATCAAGCCTTATCGATACCCGTCCACCTCGA
GGGGGGGGCCCCCGGGTACCCCAACTTTT

Sequence 692

Table 1

Sequence 693

TCCCGCGGTGGCGCCCCGGGCNGGTACCTCAGGGACATTTAAGAGTTGGACGGTGCA AATATATTCCAAAAGGGTGCAACATGACACAGTGTATCCCCCTGCTTCTGTTTTTGTAT

Α

TTTTTGCTACT

Sequence 694

GGTCTCTGTTGGGGCTCCCCTTTCCTGAACTTTGGCCAAAGACAACAGGATATTCTTGGG GGTTTTGTTGTTGTTGTTGGCATNNTTTCTGTGCCTGTTGGTGATTCCAGCACAGN CC

AGNGANCCGNGTACCTGCCC

G

Sequence 695

Sequence 696

NCCGCGGTGGCGGCCGAGGTACAGCAGGGTGCCTCATGCAAGAGAGGACTGAGTGG ATTTTCCTTAGGGATATTTATGAACCTTAAAGCAGGAGCTTAAAGGGAATTTGGGCCATA TTAACCACTTAGGTCATGATAAATGATTACATTTTTGGACATTTTTGGTGTCTTAATGTC

GCAAGGGTTGCACGATAAGTTTTGACATGCATGCATGGAGACATGTAGAAATTCTAGTT ACTTACAAGTTTTTGGGGAAGAAGCCTGGACCCAGATGCCAGCTTTAAATAACAGGGGAG TCTAATTACTTCTAAATTCCTCACATAAGGAGTTTTTGCCTCTGGATGGCCTGCTTGAT

CGCGGTGCCGCCCGGNCAGGACGCGGNGANGACAGCGNCAGGCGCTTGATTTCCCT
GAGTCCCGGTGCCTCANCTGCCCAGNGCCCACGTTCGTAAGAAGGCAACAAGNTCTTCTC
CTCTACAGAAGGATTTTGCAAACANTTCGGCAAGNTCCAAATGATTCTGATCGCAAATAC
CTGGAAGATTGGGCAAGAGAAGAATTCAGAAGAAAACAANGTGCCACCGAAGAGGATACA
ATCCGGATGATGATTACTCAAGGCAATATGCAGCTCAAGGAGTTAGAAAAAACACTTGCT
TTAGCAAAATCTTAACTATAGCATTATTCTGAAGGGA

Sequence 698

ANCCTCACCGCGGTGCCGCCGAGGTACGCAGNCCNCCTGTAGGGATCNGTNTTGTTCNT
GACNAGCCCTACGGTAATGCAGCCCGGAGCTTGTTTTCCGTAGCTGGGGACAATCTTCTG
TCCTTGCTGTTCATGTCGTGGAAGAGAGGGGCAGAGTCTTGCTCTCTCACCCAGGATGGA
GTGCAGCGCGTGATCTCAGCTCATTGCAACCTCCACCTCCTGGGTGCAAGCGATTCTCC
TGCCTCAGCTTCCCAAGTAGCTGGGATTACAGGCGTGCACCACTACATCCAGAGACTGGG
ACTACAGGCATGGATTTTCAGGTTTATAACATGGCAGAGTGAATTCTGGCAACACACTGA
GTGATGCTTGNCAATGGCCACTATCAGGAATTTAAAACAAGATTT
Sequence 699

WO 01/42467 PCT/US00/33312

Table 1

GTCACTGG

Sequence 700

CGGCCGACTTGATGAGCGGAGAGACCTGCACCGGTGGCACCATCTTGTCCCTGACCTCCGCACCGGAAGCCCCCGCGTACCT

Sequence 701

ACCGCGTGGCGCCGAGGTACGCGGGGGAGAGAGAAAAGAACACAGATCTCGCATGGT
TCAGATTTTCTTTTTAGGTCCAGGAGTAAGATATATCATACGAAAATGAAAATTATAAT
NCTTCTTGGATTCCTGGGAGCCACATTGTCAGCCCCACTTATCCCACAGCGTCTCATGTC
TGCAGCAATAGCAATGAGTTACTTCTTAATCTTAATAATGGTCAACTTTTGCCACTACAA
CTTCAGGGCCCACTTAATTCATGGATTCCACCTTTCTCTGGAATTTTACAACAGCAGCAG
CAGGCTCAAATTCCAGGACTCTCCCAGTTCTCTTTATCAGCTCTAGACCAGTTTGCTGGA
CTGCTCCCAAATCAAGATACCCTTAACAGGAGAGGCCAGTTTTGCCCAAGGAGCCCAGGC
AGGCCAAGGTTGATCCCTTACAGCTTCAAACACCGGCTTNAAACACCAGCCCCAGT
CACGGGGATGCCCTATGTATTCTCCTTCAAAATGCCTTAAGAGCAAGGGCCAGATGGTTT
CAATACCTATNCAGGTTTACATGGGC

CCGCGGTGGCGCCGCCCGGGCAGGTACTGCAAGCAACAGTTACTGCGACGTGAGATCAT CAAGAACACGTAGAGAAACCCAGCTGTAATCATGCATGGAGATACACCTACATTGCATGA ATATATGTTAGATTTGCAACCAGAGACAACTGATCTCTACTGTTATGAGCAATTAAATGA CAGCTCANAGGAGGATGAAATAGATGGTCCAGCTGGACAAGCAGAACCGGACAGAGC CCATTACAATATTGTAACCTTTTGTTGCAAGTGTGACTCTACGCTTCGGTTGTGCGTACC

Sequence 702

Sequence 703

GGTGGCGGCCGGGCAGGTACAAGACCTTGACACGCCCAAAACACTTCCTGCAGATG
TTGNCGTTGGAAAACTGTCGTCTTACAGAAGCCAGTTGCAAGGACCTTGCTGCTGTCTTG
GTTGTCAGCAAGAAGCTGACACACCTGTGCTTGGCCAAAGAACCCATTTGGGGATACANG
GGGTGAAGTTTCTGTGTGAGGGCTTGAGTTACCCTGATTGTAAACTGCAGACCTTGGTGT
TACAGCAATGCAGCATAACCAAGCTTGGCTGTAGATATCTCTCAGAGGCGCTCCAAGAAG
CCTGCAGCCTCACAAACCTGGACTTGAGTATCAACCAGATAGCTCGTGGGATTGGTGGA
TTCTCTGTCAGGCATTAAGAAGAAGCTCAAACTGTAACCTAAAACACCTACGGTNTGAAGA
CCTATGAAACTAATTTGGGAAATCAAGAAGCTGTTGGAGGGAAAGTGA
Sequence 704

Sequence 705

CCGCGGTGCCGCGGGGCCGACGCCCGCGAGATCATACAGACGCCATTACC ACTCTTGGCTCCCAGAAACCTCTGCGCCCGCGTACCTGCCCG

Sequence 706

CCCTTAGCGTGGTCGCGGCCGAGGTACCCATATCCAAGGCTTATTGCAACTTTTAGTCTT GCCCCTGCTACTTACACAGTCCAGAATCACTTGGGTGAGCATTCCAGTAGGACGGTGGCA TTTTAGGATTCAGAATATTAACCTATAAACCTGTCATTTGATTCTTGATTATTAATGTCT

Table 1

GGATCGCCTGTGGTAGGGGTGTAATCCCAGGAAGGCATTAAATATATTTGAATTAATGTA
TATTTTGAGAATAAAAGGCTATTTCTAGAAAATATTACACACTTGTCTTATGTTAAATAA
AAATTTGCTATTTATTGAATATCCCTTACCCACCCTTCTTCCCAATGAAGATCTTATGCA
TACCTTCACTGGAAGGTTTAAGATGTGACAATCTTAATAGATCTTTGTGAGACCAGCCAT
TTCTCTGTTTATATTTTTGNAACCGCCANAGCAAGGGCCATGCCACCTTTCTCATTGGACC
T

Sequence 708

CCCTTTCGAGCGGCCGCCCGGGCAGGTACATCCTTTTGCATGCTCAAGAGCCCATTCTTT
TCATCATTCGGAAGCAACAGCGGCAGTCCCCTGCCCAAGTTATCCCACTAGCTGATTGCT
ATATCATTGCTGGAGTGATCTATCAGGCACCAGACTTGGGATCAGTTATAAACTCTAGAG
TGGTAAGTGTCTTCACATTCTTTAAGCACTAAAGAAAACTTTTAATTAGCTACCTTGCTT
CCAGTAATCAAACTAGAGCTCCTCTGCCTTGTGTAAGTTGCTATAAAGTATTGACTATTA
GAATGTCTTGAACTTTGGTTACTGNGAGCCAAAGTCGGTGCTCAAAGTATATTTCATAGT
CTCAATTATATAGTAATTTANGTTCTGAAAAATAGGTTCTGGCTTTGCATATGTAATATT
TTGTGAGTATTTACTTTGGAAAGTTTGGTCGACCTAATGGATAAATTTAGAAGTTTATTT
TCCTT

Sequence 709

CCCTTAGCGTGGTCGCGGCCGAGGTACAAGCATGGTCCATACCACTGTTTACTTTTCTAG
AAAGTTGTTAGACTAATTTTTCAACAAAAATTCTTTATTGTCTTGGTAACAAAAAGAAGCA
TACTAAAAATTCTCAATAAGGCACAGTGTCTNTAGAAGCTTGAGCATTCAACATAAACTT
CTAATTAACACGAACTTGTGCTCTTATTTCAGCCATTGCTGTGTGGGCCTTGGAGCCAGGA
GAAGATGCAGAGGAATTTTACAATGAATTACTTCCATCAGCTGCAGAAAATTTTCTAGTT
TTGGGGAGACAATTACAAACATNGTTTTA

Sequence 710

CCCTTTCGAGCGCCGCCCGGGCAGGTACGCGGGCTAATCCCAGTTATGAGGGCTCTGCC CATGACCTCATCACTTCCCAGAGGCCTTACCATCTAATACCAATACATTGGGTTTAGAAT TTCAGCATGAGAATTTGGGGGAGACAGTCAGACTGTAGCGATGATTCTGGAGTATTCATC ATTTAAGAGACACTTAAAAATGATCAGAAAGGAGAGGATGAAGGCTAGAACTAAGACTTT AGCGTTGAACATGGAAAGGAAGTGATGACTGCAGATATCTCCAGTACCTCGGCCGCGACC ACGCTAAGGGCGAATTCCAGCA

Sequence 711

Sequence 712

CCCTTAGCGTGGTCGCGGCCGAGGTACTTACAAAAATTTTTAACATTAGGAGGTAATTAT
AAGTAGATTCTGTGATTAGGACTTCATTCATGTATCTTTTTGCTACATAAACCTTTGTTAG
ATTAAATGGAAGACACCTGCTAGGTGATACTTTTTATAAAACATATGAGTAAGTCATATA
TCTTTGTTAAATTTCTGTATGTTCTTTTTTTGTATAAAGATGGAGAAAGGATGGAGTGA
TACTAAGGACCCTAATAACATCTCTGTTCAAATTAATTACTAAGTGATAGAAGTATTCAT
ATGCCATTAAAGATTTGCCAATTCTATTT

Sequence 713

CCCTTTCGAGCGGCCCGCCCGGGCAGGTACTGACACAAGGACTCCAGGCCACACATATCT
TCTTGAAAGCCCTTTTCCTGTTTGAAAAAAAAGATCGTTTGTATTTGATAGAGCAAAAGAA
GGCCACAAAATGAATTGTCTTCTTGTGGGCTGTTTTCAGAACGGCCGGTTTGTGGGCGA
TGCTGACCTTGAAAGACAGAAATTTTCAGATTTGAAACTCAACGGACCCCAGGTAATTCT
TTGGCTCAAGACCTGGGTTGCTTCATTCATATTTTCTTATTTCCCCAGCCTATAAGAGCA
TATTTGTGTCTTGTAAGGTGCCTGG

Sequence 714

CCGGGCAGGTACATATGCACTATTTAGAATATGACATTAATCAACCACTAGAATTAAAAT CAGGTTATAAATCCTCAAAATCACCAGAAGTATAAATTTAAATGAAAAACCCAGACCACA GAACAAAAACAGAAATACCAAAAAATAATCACAAAATATTAAAAACAGTATATAAAACACA GTGACAGAATTAGGACTAAACATATCTGTAAAACAATAAATGTAAGGGTAATCTCACCAA WO 01/42467 PCT/US00/33312 124

Table 1

TTATGAAAAGACCTTCAGATCATATTTTAAAACAAATTTAAAAACTCAACTGTATGTTT AAAGAAATAGCAAACAAATACAGGCATAAAAAAAAAAACAAAGATCCCAATAGTACCTCGGC CGCGACCACGCTAAGGG

Sequence 715

CCCTTAGCGTGGTCGCGGCCGAGGTACGTGTGCTGGATATGCAGGCTTGTTACATAGAAT TGGTGTAAAATTTGAAAACCATGAAAAAATAAAACAATAAAGGATCTAGATGCTAATAAT GTGGTTAGTTAACATGTTGACCATTTCAAAGCAAAATAAGTCTTTGATGTTTTATACTAT TCATAGCAAGATATAAGTATTTAATCTGCAAAGACGTGGATTTGAAAATTCAGCTGCCAA **ATGTAAAGAACAGATTCCTAGATTATTATTAATAATATCTCTATAAATATTATATTTATC** AATAATGGGTACCTGCCCGAGCGGCCGCTCGAAAGGGCN

Sequence 716

CCCTTTCGAGCGGCCGCCCGGCAGGACAGTGGTGTGATCTTGGCTCATTGCAACCTCCA CCTCCTGGATTCAAGCGATTCTCCTGCCTCAGCCTCCCAAGTAGCTGGGACTACAGGCAC CTGCCACCATGCCCCGTGAATTTTTGTAT; FTTAGTAGAGACAGGGTTTCACCGTGTTGG CCAGGCTGGTCTTGAACTCCTGACCTCAAGTGATCTGCCTACCTCGGCCTCCTAAAGTGT TGGGATTATGGGCGTGAGCCACCATGCCCACCTCCTGGGTCATTCTTCTGGATATTACCA TAAAACATTGCTTAANGGGAGAGTTTGGGGGAAGTGCATANGGGATCTGCAGTTGGGACT **GGATTTTTCGGGT**

Sequence 717

CCCTTAGCGTGGTCGCGGCCGAGGTACTAATCTAAATGCTAGACAGTTCAAGTGTAGCTT TGGAGACTTACAGATAGCCAGCTAGAGAACTACCAATGATGATATCCATCACGAGGAGTT TGGTGGCCAGCCTCCAAGATGGTCCTCAATGATCTTTGCATCTTCATATTTCCACCCTGT GTAGTCCCCTCTCCAGGGGATTAGGGTTGGTCTGTATGATCACCACATGGCTGCAGTAA TGGTATGTCACTTCTGAACTTAGGTTATAAAAGACTATGACTCTCATCTTGGGTGTCCAC TCTCTGTCTCTGATCTTACACTCTAGTGGAAGCTGCCATATTGTGAACCTCATGGAAG GCCCACAGGGTGAAAAACTGAAGCATCTAATCAACAGTTAGCAAGAAACTGAGCCTGNCA ACAACCATGTGAGTGACCCCGGNAAGATTTTCCAGTCCCAGTCAAACACTTGANATAACC GGCAACCCTTAAGCTGACAGCTTAACTGCNANCTGATAAAAGACACCCTTGGGNCAAAAC CATTNGGAACCATTCATACCCCA

Sequence 718

GATATCTGCAGAATTCGCCCTTAGCGTGGTCGCNTTTCGAGGTNTTNGGGGCGGGATAAA CATGGCGACGTCTCTGCATGAGGGACCCACGAACCAGCTGGATCTGCTCATCCGGGCCGT GGAAGCATCAAGTTCACAGCAGTAATGCACACTGTGGCAGGAGAATCGCTTGAACACGAC AGGCGGAGGTTGCAGTGTGACGAGATTGCACCATTGCACTCCAGTCTGGGCGACAAGAGG GAAACTCCATCTGAAAAAAGGAGAAATTCTTTTATTTTCTACTTCTCTTCAGATTTGTC TTATGCATTTTCCAACTATGTATGCATCACAAGCTATTCTTTTTCTGAGTTATAGCTACA GTTTTCCTACTGTTGTCTNCATGCCATTTTCATTTCACATGGTACCTTG

Sequence 719 CCCTTTCGAGCGGCCGCCCGGGCAGGTACTTNNNTTTTNTNNNTITNTNNNNGGAGAC AGGGTCTCGCTCTATCACCTAGACTGGAGTGCACTGGTGCAATCTCGGNTACTGCAACCT TCACACCCCAGGCTCAAGTGTCAATCCTCCCGCCTGAGTAGCTGGACCACACGTGCGCAC CACTAAACCCAGCTGTTTAATACACCATTTTTAACCCAAAACATTAAGAAAAATATAGGA ACAGTAAGTAGATTACATTTTGTAAACAGACAAAGCTTACAAAGTTTTCTCAAATATGAA AGTCATACTAAACTGGGAGACTGTTAACTTCTTGATGGGGTTAATCTCTAATATGAAGCC NCAGTCATAGCTAACTACAAATTACATATACAATGCCAAAAATNTTCAAAAATAACATTT TTTGCCCTTAATGGATTACAAATGCTAACCNACATAAAGACCCTGGGAAAGGGTTCANAA TCTNCTCATTACATACTTTCAAAATATCTTNCCTTTACTTTCATGAAATGGACCCCGGAA TCTATGTAAGTGATGACNTGNCCGGNGTTCCAGGNGTTTNTTAACTNAAACTTGAANAAA AAAANAAAAANGGGCCCTTGGGTAACCCCCTTTTTGGG Sequence 720

CCCTTAGCGTGGTCGCGGCCGAGGTACTTGAAGAACATGGTAAAAATATGTTCACAATAA

Table 1

Sequence 721

Sequence 722

NGCCTTAGCGTNNTCGCGGCCGAGGTACATGAACCTATTAATAAACCATTCATGCTTCC
CAGTTTGGCAGATGTGAGCAAACTATGTATAGGAATTCCAAAGGTAACTTTTTCCTTTCA
TTACTTTACAGAAATACTGTCAAGTCCAATAGAGAGCACAGACTTGGGAGGCGGATTGGG
TGGGTTTGAATCTCTGCCCACTTTTATTAATCATGTGAGTTGAGTATGTGACTTAA
TCTCTTTTAGCTCAATTTCCCCATCTGTAAAATAGGAATAATAAAAATACTGACTTCAGA
GAGGTTTGTGAGGATCAATTAGACAGTCATGTTAAGTCTGTAAATTGTTTCTGTAATGGG
CAAGATAGCAAATATTTTAGATTTTGTGGACCATGCAGTCTTTATCATAACTGCTTAACT
GCCATTATAGTGAGAAAGCAGCCACAGACAATATGTAAATGAAAAAGTGTGTCTCTGTTC
CAATAAAACTTTATTTTCAAAAACCAGCTGGCTTGNCACATCTGGCCTATGGGCCCATAA
GTTGGCCCATCTCTAATGTAAAGAAAGGACTTTANCCCAAAGCCACAACTTGCATCATTACC
AGNAGCCAATTGGAGTAATGAATCCATGAATGGTATAATAATTACTACTGCATCTATTACC
AGNAGCCAATTGGAGTAATGAATCCATGAATGGTATAAATACTAACTCCCTTT
Sequence 723

CCCTTTTNAGCGGCCGTTNNGGCAGGTACTCCTCAGCTTGTGCTGCCCTTCTCGAATGAC TCGCGTTTCCTGCTTTCATCACTACACCTCCCACCGCTCTCCATCACCTGCTCTGCTCTT ATAAGGATCCAGAGAAATGGAATAATCTTATTGCTGATCTATGTAAACAAGTTGAAGAAT CGTCTGAAAGAAAATACAGTGTGTCTAAACTGGAAAAGTCCTGTAATAGTTTGTTCATGA GCATTTGCACAGTGGAGTTACTGTTCATCATGGGGGTAC

Sequence 725

ACTCCTGCAGTTCACTGGGTTTCAAACTTAAAAATCAT

Sequence 726

Sequence 727

Sequence 728

Sequence 730

Sequence 731

CCCTTCGAGCGGCCGCCCGGGCAGGTACTTTTCTGAAGAATACATCTTCGTTCAATGTGG
TCGTATTCTTAATTTTTCTATAATATTGCTTGTAATCTTTAGAGTTATGGTTTCATTTT
TTGACTATTAAATTTGAAATTGTTGACATCAGCAGTTGACTCTTCTGTGTAGATCATAAT
TTTTTAATTAAGAAGACACTCTCAAGTGTTGAACTATAATTGTAGAGTAAATTCTAAGTG
GAGGATATCGTAAATTCTTTTTTGTCTTGGTATTGACATGTAAATGTTAACATATGTGAA
TAATTCAGTCCCCGATTGTCACAGGTTCTATGTCTTTACCTCCTTTCAAAATACTTTCTT
TAACAAATACTTTGACAAATTTATTAACCATTTATAAGACAAGACTTACCAAGGTGGTGT
TCGTTTATGAATCTTTAAATGTTTTCCAATACTTAAGATACATCAAAATTATAGGACTTC
TCAATTCCATCCTATTGTTACCAGAATATNAAA

Sequence 732

CAAAGTGCTGGGATTACAGGCGTGAGCCACCACACCCAGCCTATTCCTTTACTTTCTTAA
ACTTTCTTTCACTTTACTCTATGGACTCACCCTGAATTCTTTCCTGCTCAAGATCCAAGA
ACCCTCTTTTGAGGTCTTGGATCGGGACCCCTTTNCTGTNACACNAACTGTATCCCCCTT
GGCAGACATATGAATTTGCACCCCCGCTTGGGTCTTCAATNTCCAGGGGATGAAACAAGG
GAGGNAAACCGAGGGGAAAA

Sequence 733

Sequence 734

Sequence 735

Sequence 736

CCCTTTCGAGCGGCCGCCCGGGCAGGTACTTGTCTGCTTCAATAAAATTTGTCTTTGATT
TCACTGGTGGAAGGGTGCTTGATCCAGCTTTTGCTTCTCCATGAGGAGGACTCTGTTTTT
CAGTTTCCGCTTTTATTTCCTCTGAGGGGAAAAAAAAGAAGCATACATTANAAAACTGGA
CAGCAGAAAGACTGAGTAATTTCTTAAGTTCTATAAACTCATTTGGAACTTCTACAAAAA
GTTGGAAAGAATGCAAATTTAATAAAAATTAGATGCTAAAATTGTTTCATCTAAATTTTT
TAATTTACACAAATAACATAAAACTATATGAATAGGTACCTCGGCCCGCGACCACGCTAA
GGG

Sequence 737

NATTTTTTTTTTTTTTTTTTTTTTGAAAACCCTTTATTCGGTTTCTCAGTAACAGT
GATGCATTATAGAAATTCTTGTCTGCTAAACTTCATAGCAAACCGATCCCAGTCCTCACC
TNATTGTGTGGTAGCCCAGCAGCAGCAGAAGATGGAATTTTCTGCCCCCCTAGCAATACTG
TTCATCCCATCAGATGGCCGAAATGCCAGTCTGAATCATTTCCTCTGGGTAGATTCNACA
TTGAGGGTTGATTGGCTGACCTAATGTNTTTTCCAAAAAGGAAAATTTCAACAAGTTGCC
CGCATTATTCATGAATGANAATTAGATNTCATATCAAATTAAAAGAAANGAAAAAGCACC
AGANGACCAGAACTACATAAAGCATCTCTTTACTACAAAAAA

Table 1

TTCTTTATGACCTATTCTGNGTTCCTGGGACTNTACATTAATCTTTNCCCATGGATATTT ACCATTGGAAAGGG

Sequence 739

Sequence 740

Sequence 741

CCCTTTCGAGCGCCCCGGGCAGGTACTTCAGGTTAGAGATGACTTCAATATATGTCG CAGACCTCCCAAGGTGAGCATCACACAGCACTTATCATAATCCGAAGCAGCTCCACAGAG GCTAAGATGAAAACAAAAATCTCAGGAAATTTATGTTTATAAAAATGATACTTGCAAAAA AATGAATGGAACCATCTCCATTGCTTATTTAGAGTGTTGACTCACTGAATAAGATTTTAA ATTAGTCAATAGTATTGGATGCCTCTATATCTGCATATCAATAGGCTCATAAACAAGGTT GCTCAAAGAACTGCCCATCAACCACTTGGTTTCATCTTTGGACACCACACTGGTTATCTT NCTTTGGCCTCTGCCATAACGGGTCCAGGCTACGTGCACCAAAGGGAAAAGAATTGGGGT NCTTCTTCCCTNCCCTGGTTTGGTTAGGA

Sequence 742

Sequence 744

Sequence 745

PCT/US00/33312

Table 1

Sequence 746

Sequence 747

CCCTTTCGAGCGGCCGCCCGGGCAGGTACTCTTTTGTTTAGGTATTTCCCTCCTGCTGTG
TCCAGGATTGCTGTGGTGGTGATGAGTGCTGGGAGGTGAAAAATTAAAATAAGCCATT
TACCAGTCAGCATCCCAATTAAATATTTGATGTAACTGTGATCTTTGAGCCAGGCTTATA
TATTCATTTTCAAGCAGAGGAGTTCCCCATTTTAAATAGAGGCATTGTCTGATGTGTTTA
TGGTTAACTGCATCTGGCTTGGGTCTTTCTGTTTTCCTTTTCTTTTGCTGAATTAGAAGGGG
TTACTCTGAAGAGGTCCAGGTCTTACAGTGTGGTT

Sequence 748

Sequence 749

Sequence 750

CCCTTAGCGTGGTCGCGGCCGAGGTACATTTGATTGTGGCATATTCAACTATGATTTTAG
ACAAGATGTGTGTGTGTGTGTGTGTGTGTGTAGACAAAATAAAATTCAGAAAGAGAAAAT
CTATTCTACAATGAAATTCAATCTCTTACTTAGCTATTTTGAAATTGTGCCCAATACCA
CATTAACAGAGCCAAAATGAAATTTAAAATTATGGTTATACTATTATTCACACTAGGTAG
GGTCAGGTTTTTTTTGNCTGAATTAAATGGCTCCTTTACNCTAGCTACTTANGAACCACTT
NCCATACCCTNAAGCTAGAGTAATA

Sequence 751

Sequence 752

Sequence 753

Table 1

TGACATATTTTTCCCATCTTCTTATTTCAACCATTTGACTGGTTGTCCAGCCCCAAATTG
TTGGACTTTTTTAAACAATTCACACTGACTGGCAGTCTTCACCTTTAAATNGTTGAGTTC
CATCCCTTTAAAATCATTTAAAAAACATGATTTTTAAATTTATCTCCATTACCTTATTTTG
NGTTTACTTTTTTACTTTTATTTATTTCT

Sequence 754

Sequence 755

CCCTTAGCGTGGTCGCGGCCGAGGTACATGTTGGAAGGGTTTTTAAAATGTTTTGAAACT GTGCACAGGCCAAACCCAACTTTCAGGACATGGGTTTTCAACTTCTGGATGGTATGATGG GGTGATAGTAGGGTATAAAAGTATCCTGAGAAGTTGAAAGCAGTGTGTGAATGGGGTGTT CTTTTCTCCCCACAATCCTTTCCCATCTGCTGACAGTAGACTTAGCACCTCACAGATGCT TGGGCCTGGAAATGAAGCCATGAAAATGAAGCCCTCAGCCTTCTTGGAGATCAGAGCCAT GGTCCTCACCCACAGCACATGGG

Sequence 756

Sequence 757

Sequence 758

Sequence 759

Sequence 760

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Table 1

CCCTTAGCGTGGTCGCGGCCGAGGTACAGATATAAAAAGGCTACTATTCCAAGAACAAAA TCCTGGAAACAATGTCTATCAAGAAAGCAAAGATAATCTAAACAGCAGCATATTCATAG GATGACAAACTATTCAACCATTATAAAGAAAACCGAATCAAAAGCACTGGCTTATTAGAC AAGAGTTTCCCAAACTATCATGCTAAAACAGTAACAGCGAGCTTCCAAATTAATGTTGCC **GCACTGAGTCCAGCCT**

Sequence 762

CCCTTCGGCCGCCGGGCAGGTACGCGGGTATGGTTTTACGAACAAATTTTTAAGGAAAA AAATTATCATGGTTCTAATCTTACATGTTAACATTTCCTTGTTATGTAGGGATCAGACTT GTTATAACATAATTCCACTTTATAATTCAATGAAGAAGAAGTTTTGTCTGATTCTGAGG TATGTAATATTTCATTATTACTACCATATTGATATTCTCTATATAAAAAAATTTACATAT TGTAGTTTTCAGGTAAAAGCTGTTGTGAACATTATTTTTTGTCTAGTGTAGTTAATTTAA AAAAAAAAAACAACTG

Sequence 763

CCCTTAGCGTGGTCGCGGCCGAGGTACGCCTAAGGGANGNNNGGAACTCATNAAAGAGAC AAAANGTGCNTTTTTGNTTNNAAGGCATGCTGTGGTGGTTGGGCGCAATAAAATAGTTGG GGCCCCGANTGCCANTGACTTGCTTTNTNGTNGGNAACNAAATGGCCCATCANGTTGGA CNCACCTGNCCANTTCACAAAGACCTTGNCCCCATTCNTGGGAATGNAAGGGAGNGTTAA AAATAAAAAGTGTTGACCACTCCCTTGGATGGGTTTAGCCAAACCTTGGGNTCCANGCC CCTGGAAAATTGGTTTTAAAAGGGGGGGNAGNTNGGGATCCAAAACCCTGGGGGGCCAAA ATAAGATACAATCCGTANCTTGTTNGGGAAANTTCAAATTTTAATTGTTCCCCCCAAGNA TTNGAATTANNAAAAAAACCCCAAAATTTGGGGGAAGGNAAAAAAANGT Sequence 764

TTCATTAAGGGATTAAAAATGTATAAGGCCAGCACCGTGTAAACCTTCGACTTTCAAAGA ATTTTCCTGGAAANCCCATAATTGGTAGGTNATGGGTTTTCAATTTGGTCCGTTNCGCCA AGGGGGGTAAAGTTNGAATTCCCCTTGGGGCNAAGTTCCAACCCCANTAAGGCCTTCCT NAACNTTTTNGTTTTNNAACCTTTTTTTTTAANGNCCTTTTTTTTGAAATCCCAAAAAA ACTTCCCCTTAAAAAAAATGGNTTNGGAAAATTAANTAAAATTTAAGGTTCCANGGNTTT AAAAAAATTTTCCACCCCAAGGCCCTTACCCNCCAANGGGGNAAAATTAACCAAGGGGGA ACCTTTTTTTNGAA

Sequence 765

CCCTTAGCGTGGTCGCGGCCGAGGTACAGAAGCAATGTTTTTTGAAAGTTTTCTATCTGT GGNTTGTTGAATCCACAGATGCAGAACTCATGGAAACAGTGCCCACTGTATGTCACAATT TCAGAAAATCAGTATTTCATACAATCANGCTAATAGCCTAATTTGTTGAGCACAAGAAAA ATACACTGAACCAATTCTGATTATTGCANGAGAAATGATTGGCAGGATATTGGGAAATAA GAATGAAGGGCGGANAGAATTTCACATGGATTCAATATACTCTCCGTCAGNGAATTTTTG Π

Sequence 766

CCCTTAGCGTGGTCGCGGCCGAGGTACAGAAGCAATGTTTTTTGAAAGTTTTCTATCTGT GGTTTGTTGAATCCACAGATGCAGAACTCATGGAAACAGTGCCCACTGTATGTCACAATT TCAGAAAATCAGTATTTCATACAATCAGCTAATAGCCTAATTTGTTGAGCACAGAAAAAT ACACTGAACCAATTCTGATTATTGCAGAGAAATGATTGGGCAGGATATTGGGAAATAGAA TGAAGGCCGAAANAATTTCACATGGATTCAGTATACTCTCCGTCAGGAATTTTGTTCCC TTGATCTTTTTGTGGTTTAATGCCTTAATTTATTGGGGCCCCTCTCATANGTTTGGGGG Sequence 767

CCCTTAGCGTGGTCGCGGCCGAGGTACAATCAAAGGAGTCTAATGGAACCAAGTAGCAAT TTTGCTAACTTTATCATGACTTTATTCTTAAAGCCTATCACTGGTCTGCTTTTATTAATA GATTAGTGGAAATTTTCACCTGGCCTATTAGCACCTTATAAAGAAATAGATTAAGAGTAG GAAATATATAGATGAAGATGTACTGTATAGAAGTTGTGTAAAATCAGTATGAAAGTTCAA TGTTGCTGTTCTTGCTCAGTGGATTTTAAAGAAATTGAGTAGTTCCTATGTGGATTTTTT TITTTTCTTTTCTAAACTG

Sequence 768

CCCTTTCGAGCGCCCCCGGGCAGGTACTTATTTTTTTACTAAGGTTTTGTTTTGGAGA CTTGTTTGAAATAAAGTGATCCTCATTCAGGATTTAGAAACAAAAGTTATACTCCACATG CTAGGGATTAGGAAGGCTAATGTGAACTGATCAAAAGTATGAATTATGGAATGCCTTTAG AATAATCAACTTTTAGGTAATTTGATACTGCTATAATTTCAAGCTTAGAGAAAAGTTGTA AGAATGGCATAAGGAACTCCTATATATCC.TTATCTAGATTCACTAAATGTTCATTTTGT GCCATTTGTGTTATTCTTTGTCTCATCCTAGCCCAGTCAGCCTAACACCACCCAGGGGAT AAACCAGTAGTCTGATA

Sequence 770

GATATCTGCAGAATTCGCCCTTTCGAGCGGCCCGCCCGGGCAGGTACCTCTCATTTGTCA
CTTTTCAACACTTCCTGGCAGGCAGGCAGCATAACTGGTCCTGCTGGGTGATCCAGACCA
CACTCTGCAACTCTTTCTTCTGAGCCAGGCTCCCCTACTGTCTTTTCATTTATGTCAAGG
CAGGGGAAGACCTCAAAGGGCTCTTGCATCCCAGTCTCACTTCCCAAGAGAGGCACGAGG
CCCTCCAGGATGTGGGGACAGGAACTTTGGGGCAAGCCCGGGGCTGTCCAGAAGATCACC
AGGAGGGCTAAATAGTAGAAAGGAAAAGTCTTATTGGTGATATGTTTGCAAACTGGGAAA
AAGATAGCCTCCAGTGTGGAGCAAAGATGCTCCTTCTTCAAAGAGGGCAAGGCCAGCTTG
GATTTTGTGCCTTACANGGTCNGTATTATATAATAGAGTCATGCATATTCANTAGGTTTG
GGGGAAAAGCTATATATTTATGAAGGGGAGCCAACTACATGGGCAATGGATAAACATA
CATGTAACACATCCATGTTCACTTTAGGGGCA

Sequence 771

GGATATCTGCAGAATTCGCCCTTAGCGTGGTCGCGGCCGAGGTACAAATAAAGTATTCCA AGGGNGGNAGAATNGAAAANGANGNCTNNCANCTTGNTNNCNTTTGGGAAATTGGGATAT CCTTTGGGGAAATGTAGTAATCAGTATATTCTGGGNAAAACATTAGTTAGAAGAATTGAA NTAAATAAAATTTCCATTGAATTTGGAATATGTTGTCCATTCTCCCTGTAAACTAATGCT ATCAANGATAAAGTANGAAATACCACATTTCAGNAAACAAGCTTGGAAGTAGNACAAGGT CCTTCATTAGNGCCNTAGCCTTGGNAAACCCTTAATAANCCTATNTAAATAAAATTGAAA ANTTTTTAAATTTATNACTCCTGG

Sequence 772

CCCTTAGCGTGGTCGCGGCCGAGGTACTATCATCCCCCAAGGCCTTTTACAGTCTGAAAT
ATCAAAATTGAAAGCAAAAATAGGATGACCAAAGGACTACTATTTNACTCTCTTTTCAGN
AACNTCNTACAATATGTATGAAAACCTAAAATATCCACTNTATGGGATCATCANNGGGGG
GAANNTAAANTGTTGCCCNTGTTTTNGNAAANGGGGCATTCANGATGTATTTGGGATGTN
CNCANGGNCCTGGGGCANTTTTATNTCAAGGATGNAAGGGGNTNNCATTAACCTGAACCA
AGTGGANTGACANGNGTCTTCNCNTTATAAATACCAANGGGGCCGNGTTNTGGCNAACCC
CANGCCACCCCAATTGGAACCTTATGGGGGGGCCTTNGGCCNTTTTTTANAAAANAACCA
AAAAATTTTTTTCTTAAAGGGGGGAACCTTTTACCCGGNCCTTCCTTNTTTTGGGGGG

Table 1

Sequence 774

CCCTTTCGAGCGGCCGNCCGGGCAGGTACATATACATTATGTAATTAAAAAGCGTGCATG TGTATGTATTAAAAATAATGGTATATAAAACAAAATTACAATTATATACCAAATAAAAAC CACNCTAAACGCCANNAGGGCATGCTTGTTTATTCCCACCATATTAGNTAATAACCCAAA TAGATAATTAAANTGGAATTGGGTG

Sequence 775

Sequence 776

Sequence 778

Sequence 779

CCCTTAGCGTGGTCGCGGCCGAGGTACTACGAAGCTGCAGATCATTACGCTGATATGAAT
GACTGCTTGAAAGAACAATGACTCTGGCACAGCCACTGCTTTTCACCCAGGAAAGCAGTT
TTTCACAGAATGGCTTTGATTTATACTTTGCACACCATTGAGAGAATAAAAAGAAAATCT
AAAAGTTAGTCTTAGAGCATACAAACATTCTATATACTATTTCATCAACTTTATGTGATA
ATGATATATAATTTATATATACTGAAATTATTTTCAGGATCCACTTACTGTGCTTAAACC
CGAAAGTGAATGATTAAAGAGGCAATGGAATTATCTAATGTATCTTTTATAAATTAAAATTAAGAA
ATCAA

Sequence 780

CCCTTTCGAGCGGCCGCCCGGGCAGGTACAGACAGTGTGATGATGATGCTGCTGGTTGT
AAATTTCATCGTGTGTGTCTAATTTTTTTTCCTGTATGAATGGGGTAAAAACAAAACANN
AACTTTTTTTTAGGAAGATTGTAATTTTGCNTGTCATGTTTTTNGTAGGNAATGAGGGGN
ACTCGTTTGNAGTCTTCACCTAACNCATCCCTGNGNAGTTTNTGAAGTTTTGGAAAGNCC
ATTGAAANNATTGTGTTGCCCCCCCAATGNCCCTTGGACCNGCCTTNACAGTCCGNCNCTT
NNGGATTCTTGCAACCGTTGTC

Sequence 781

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Table 1

Sequence 782

Sequence 783

Sequence 784

CCCTTTCGAGCGGCCGCCCGGGCAGGTACTACTCGATTGTCAACGTCAAGGAGTCGCAGG TCGCCTGGTTCTAGGAATAATGGGGGAAGTATGTAGGAAGTTGAAGATTAGTCCGCCGTA TTTCGGTGTACCCCTGGGAGGTGCCAGTCATTGAATAAGATAAGGCTGTGCCTACAGGACT TCTCTTTAGTCANGGCATGCTTTATTAGTGAGGAGAAAACAATTCCTTAGAAGTCTTAAA TAT

Sequence 785

CCCTTAGCGTGGTCGCGGCCGAGGTACAAGAGGATATGTGTGCATTACATGCAACCACTA CACCATTTAATATCTGGGGTGTGAGTATCCGTGGGTTTTTGGNATCCGTGGGGGTCCTGG AACCAATTTCTCCTGGATACTGAGGGATGACTGGATTACTGTGTTTTGTGTGCTTGTTT TTAAGCTTCAAAAGATTATGTGATCTAGGAGTTGTTAGATTTTATTATTGGTCTTAAAAG ATAAGCTTANATGTTGTTACTTTTTTGGAGTTTTTACGTTTACAGTGATTTCATGAATCGG GCAGCTTCANACCACAGGAGACATNAAGCAGGTTTNAATTTTCAANGAAAGGCNTTTACA AGGCAAAAATATTTTGATTTGGTTTAGA

Sequence 786

Sequence 787

CCCTTTGAGCGGCCGCCCGGGCAGGTACGCGGGATTCCTGGTTAAGCAGGCATTGCTTTG CCCTGGAGCAGCTATTTTAAGCCATCTCANATTCTGTCTAAAGGGGTTTTTTTTGGGAAGA CGTTTTCTTTATCGCCCTGAGAAAGGATCTACCCCCAGAGGGAGNAATCTGTAGNACAT TCTTTGCCTACTTNTTACTTTTATTTAGGCTNTTCTTCCCTNCAATTTCAATTTTCCTGT ATTACCACCCTTTTTTTCCCCTTTTTTTTGGGGGGGGAAGA

Sequence 788

Sequence 790

Sequence 791

GATATCTGCAGAAATTCGCCCTTAGCGTGGTCGCGGCCGAGGTACTAATTCTTTTCCTCT
TTCCTAGACCGATTCTAGTTTGTTGCCTTCCCTTTCCTCGGAAACCCCAAGTTTGTGGAT
GCTGCAGACACTCTGTGCCCCCCTGCATGCTGGGTGCCTGGCCAGCTGCCAGGGCATAAA
GACAGAGACGATGTGGCCTTTGTCCTTAAGAATGAGGTTTGAAAGCCTCAGTTCTTCCAT
GTTAGGTGATTNCTTGCAGCTCTTGGTATCTGCAGAATTAGTGTGAATGCTTAAAAAATA
TTAACAGCTTTATATCATCAAAGTTTTAACAGTACCTGCCCGGGGCGGNCCGCTCGAAAG
GG

Sequence 792

Sequence 793

Sequence 794

Sequence 795

Sequence 796

CCCTTAGCGTGGTCGCGGCCGAGGTACACTATCTGACCTAATCCTCAACACAAACTAAGG CAGGAGACACAGGGCTGCAAGGACATTTGCTGCCATCCAATTTGTGCCAGCCTGTTTTAT CAATCTGAACCTATATTATTTTTAAGACCTCACGGCATCACTGAAAGATGAGTATTATTA GTTGGAATTTTAGGGATGAGAAAACTGACCCTCAGGGAGAATAACTGACTTGCCCCGGCT CCAACAGTAAGTGGCCCTGCTGGGATTTGAACCCAGGTGTGTCTGACCCCGAAGCCTGAT CTGACCTCTGACAGTCGTGATAAAAATAAT

Sequence 797

Sequence 798

Sequence 799

Sequence 800

GATGGATATCTGCANAATTCGCCCTTAGCGTGGTCGCGGCCGAGGTACTGATTATTCTCC
TGCTTAGGGAGAAGCGGAAGAAGGCCCTTGGAACTGTGAGTTTTGCATTCCAACTTGCTA
ATTCAACATAGATCCTAATTCCTTAAATGCTTGTAATTAGAAATTCTCGTGAACTGTATT
GGTTTTTGTCAAGCAATCTGTTTGGGGAACTTGAGCAACTGGGGCACTGCTGGCTAGGGT
GAAGTTTATTTAATTTGGTTTTATGACATTCTTCATCTTGGAAATGGGGTTTTCAAATAT
TGCTTTCCCAAGCATCATTACTTATTTGCTGGTTTTTA

Sequence 802

CCCTTTGAGCGGCCCCGGGCAGGTACGATAGGCATGCAATTAAAGAAGACCTGCCTCAA
ACATTTTCTGTGTGACCTGAGGCANGTCCTTTTATAGCTATAAACTAGGGACAATATTTG
CTGTCATTTTTTCTACAAATGTCACAAAGAACAAATTTGAGCCTGTCGCTGTGAAAGAAC
TTAGCAAATGAAAGCATCCTAGGGAGTGTTTTTAGATATCGATATTTTTATCCAATTAACT
TTTCAAAATGAGTTTATTTGCTCACTGAAACTGAAGTACCTCNGGCGGGACCACNCTAAG
GG

Sequence 803

CCCTTTCGAGCGGCCGCCCGGGCAGGTACGCGGGGGGTTCAGCTGTCTCTTACTTTTAAC CAGTGAAATTGACCTGCCCGTGAAGAGGCGGGCATGACACAGCAAGACNAGAAGACCCTA TGGAGCTTTAATTTATTAATGCAAACAGTACGCTTGGGAGTCCTCAGCAGGGGGGATCATT CACAGTGAGGACAGACACAGGTGAACCTATGGGTCGTGGAACAAAAGTTATCCTACACCT GAAAGAAGACCANACTGAGTNCCTNGGCCGNGACCACGCTAAGGGCGAATTCCATCACAC TTGGCGGC

Sequence 804

CCCTTAGCGTGGTCGCGGCCCGAGGTACCTTGCACAGTGCCTTTTAAATTCATTTTGCTG GACAGTTGGCAGGCTCTTTCACTTGAGAGGCTTATATCTTAACGATTTAGAATGGAGAGT TTGGCTCAAGCTCCCTGTGTGTGGTCTGTGCTTTCTATACTTTTATTCTTGGTATTCCAG AGTCTGGAGGCTTCTCTTTTTAAAAATTGCTAGGCTCCTGCCAAATGTTATAATTTGGGG ATGTGAGTTCACTAAGAAATCAACTGACAAGAGGCAGATTAATAGGAGAAATGACATCGA AATTTATTAGCATGCAGGGGGAAAAAATTGATTACCAAATATCCCAGTAGGGTAGAGATG

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Table 1

Sequence 805

CCCTTCGAGCGGCCGCCCGGGCAGGTCCGGGCAGGTACTATTACTAGGTTCATTGTTTCC
AGAGGGGTGAAACGGGGCTTTGGAGAGGGTTAAATAACTTGCCCAGGGTCACACAGCTATT
AAGTGGTAAAGCTGGGATTTACATGAGCCCAGACAAAGAACCCAAGAAGCTAAGCTATTC
TCTTGTAATACCTCCAACATAGGAGGCAAGAAGTGAGGTATTATACAGGTTGAGGAGATA
AAGGGGAGAGAGGCCTGCAGTGCTAACAGGAGGAGCTGGGATTCATCCTGGCTTGTTCTG
ATAGGTCAGTTAGTCTTAGAGATACCCATGAGGTCACCTACTCAAAATGGGGCTCAGAGT
AGCCTTGTCCCATTCTTGTCCAGTGGGCGCAGCTACAGTCTTCCTGGCCTGGAGTGACTG
GAGGCTGTCCCCACGTCCCACTTCAGTGAGGCATTCATGTGCACCCAACACACTTTCTAG
CTTTATTTGCCTGGAGGGGAAGATTCTCCAGAACCTTGTTAAGATGCACAGTGTGGTCCT
CGGACTGGCAGTGTGGCCTCGGCAGTCCCTGGG

Sequence 806

CCCTTTCGAGCGCCCCCGGGCAAATTCCCATGATGTCAGACCACTGGAGTTTCCAGGGGCAACACCCCATAACCGTCCCGCTGCAGAAGAGCATCANANGTTCAGAAGAATGCAAAGGATCTCAGTGGGAACGCGGACAGGAGAGCCCCAAACCAACACATGCTAGGCCTCTCTAGGCCCTTTCAGGCTAGACTTTCTGAGGTTGGTGCAACTGAGGAAACGAAAGTTTCGGCCTCTGCTGTCAGATCTATGAAAGGAAAGAACTGTGAACTTGTCCCCTTTTGTTTTCTTTGACTTAAAACAAAAGAAATCACTGGAACAAAGTCTTAAAGTAATAACAGAAATGTCAGAAAAGTTGAACATCTTATGGGCACATGCGGTGAGTTACGCTAACTTATAGCATCCACTGAGATTAGCCCGCATAGGATTCTCCATGTTAGAGCTAAAAGGA

Sequence 809

AACCTACCGCTGCAAAATAGATTAATATTCACATGGGAAAAATCCTGGNCAAGGGGAANT
TTCNNCATTAAATTNTTTNCAGGGGAGTCCGGTTGGCCANCCAGAANTAAGGTNCTGGGT
TNGGGGGAATGGCTTAAAAGCCCTTGGGAAAAACAAATTGGCCAAAAANGGGAGTTACCT
TTTAATTGAANAANTTTTTTTTTTCCCTNAAAAANGGGATAAAATGNACTTGNCCNAAAA

Sequence 810

CCCTTAGCGGCCGCCGGGCAGGTACTCCATTTCTTTTATTCATATTATTTCACCAAAT
AATATTCCACTGTGTAGATCTATCACATTTCGTTTAGCAGTTTATCAGCTGGTGGACAAT
TTGGCTGTTTCCATTTTTTGGCTGTTATGAATAATGCTGCTATGAGTCATAGAAACCATT
CCTCTTACTCAAGAAACAGGTTCTCCAGAAACTAAGCTAAACTTGTTTGAAATGTAAATT
CTCAGGTATTCTCAGTATAGACCTATAGATTCACTTAGCTGGTGGGGTCCACCCAACTTC
TTTTAACAAGTCCTCCAGTGGATTCTGATGCAATGCTAACATTTGTGAACACTGTCAAAA
TCAAAATGGAGTCACTTGTGTTTAAAAATCCTGACAAATAAAGCCAGGGACAGCTATGAA
GAGAGGGTTCTCATGCATCAATGCCTGATTAACAAAAACTATCCCAAATGACTCTGCAAA
AACCC

Sequence 811

Sequence 812

CCCTTAGCGTGGTCGCCGGCCGAGGTACCTAAGAGTTATTAATACTATTTCAGTAAAAAA AAAAATTTAATAAAACCCTGTGTGATCCCATTGTAACAGAAAGGCTGATGTTTCTGTTGT GAAATACAAATGCAAGGAAAAAATCATTTCTTTGTTTCAAAGGATGCATTTCTTCCATAA AGAATAATTTGTATTTATTTTTAAGGGTTTATTTTAACTTATACATCANCCTATNTAAAA TACATTTCAAAATGATCTGTGCTCTTTAAATTACCAAAAGCAA

Sequence 813
CCCTTGAGCGCCCCGGGCAGGTACATGTGCATAAGAGGGAATGCTTCCCTACATTAC
TCCAGAATACAAAGCTTCTTTCTGCCTTTCTCATCCACATAATGGAAGACACTTCTTGGG
TGAAATACTCCACANTTATTTCAGTTCTCACTGGTGAGTCTGAATATAAGCTCTATGAGA
GCAGGGACCTTGTCAGTCTTATTCACAATATCCCCAGCCTCTAGAACAAGGCTGGCACAT
AGTAGATGCACAAAAGGTGTTTGCTGAATGAATGATGACTGAGTCTGTGTGGGGTAATG
ATAGGGCTAAGGATGGGACTCTAAACTCAGGTTTCCTCTGTGGGTTTCACAGTTTACTGG
TCTTAAGAGGAGAGTTTCCTAAACTTGCCTTATGATAAAAACCACCTTCAGCATTTGNTA
AAAATTACCCATTCCTGTAGATTCTGAGTCAGTGAGCTGAAGTGGAGCTGATGAATCCT
Sequence 814

Sequence 815

CCCTTTCGAGCGGCCGCCCGGGCAGGTACAAGTATTATGTATCCATAAAAATTAAAAAAT CTTTAAAAATGCATATGGGGGTCAGTAGGTAAAAGAAAAGAAAAGAGAACCAAGAGAGCTGCAGC CGGGGAGCACAGCTTGCTTTAAACATGAGATCCAGCTCAGTGATCATGCGGGGGAAAAGG CCCGGCATTGCTGGAACTCCTAATATTTAAAAAGATGATGGAAACTTGAAATTTTATATT TAATCTTCTCATTTTTAAGTGTTGGCAATGTATTGAAGACTTTGAAGCCTCTCTGCTGGT CAAACAAGATGTATCTGTAGGCTGGATTTAGTCCACAG

Sequence 816

TGTTCTAACATGATTATATTCATGGTGTTACATAGGCCTCAATTTTTTCACAGAAAGATT
TTTGGAACAGGACTGTGAAGTGAGGCTTTTTAAAAAAATTATTTTATAAGCAGAGAACACA
GCCTGATAACTTAGTCAAGGATATACTGTCTGTCTCACTACTTTGGACTTATATGGCTTC
AGATTAAGTCATCCAAGAAACATACAT

Sequence 817

Sequence 818

Sequence 819

Sequence 821

Sequence 822

CCCTTGAGCGCCGCCCGGGCAGGTACAGAGCATCTTAAGGTTGGAAGGACTCTTAGAGA CCATAGTCCAGCCTCCCACTTGATACTGAAACACGTTTGTGAATTCATGGCCGATGTCTA ACTTCCCTCACCACCTTTCCGATATGGACAGTTCTCATGCCCAGAAGCAAAACCTTCTTT ATTGTGCCTGTCCTCCCTTGACTGTCATGCATATAATCAGCATCTTTCCCACTAAGTGAA GGGCCCAGACTCGAGCACAGGAGCACACCCCTTAAACTCACGAGGGGCTGCATTCAC ACCATCAGCAGGGAGATTACACTTGTGTCATTT

Sequence 823

CCCTTAGCGGCCGCCCGGGCAGGTACCAAGACTTTAGAGGGCAAAGAACAGAGGATTCTT GAGAAAGGGGACTTGAAGGTGAAGAGATAAAGGCTGGTGCTTCCAGGAGCGTGGGTCTCC TACGTTTGTGTTCCTGGGAAGAATCTTGGACTCAGGCGTGGGCAGCTGGATGCCTGGGTT CCTTAGGCTTCCTCCAGGCAATGTAGTTGCCTCTTTCTCTCCCCGCGTACATAGTAAGTG WO 01/42467 PCT/US00/33312 140

Table 1

TATGATAGATGTTTGATTTGTAAATTACAAATATAAATTATCACCCCCATTTCCATTTAT TTTCTTGATATATCAAAATGTGTTG

Sequence 824

CCCTTAGCGTGGTCGCGGCCGAGGTACCCCCATTATAGTAGGGAGACTGAATCTTCAAAG TTACAGGGTGAATCAATGATAATGATCTTTGCAGCTTTCTGGAGTTAAAAAGCATCAAAA TTGGGAGATATTAGATGATGACATCTAAGTATTAAAATAAGGAGATATTAAATGATGACT TTTTAATGGCTGGCTGACCCAGCCTCAATTTTCTTGCAGCTTCGCCGACACGAGGTGACC **ATCTGCAATTACGAAGCATCTGCCAACCCAGCAGACCATA**

Sequence 825

CCCTTAGCGTGGTCGCGGCCGAGGTACCTCTCATGGCTTTTTGGTTCCAGCANTGAGGGC ATTGGTGAGATCAGTGGTAAACTGTGCAAGCTTTCTTTTTATCATTAGGAAATGTGAAAC AAAAAAGGGTGGCTAGATTTATCTTGGGTGATGGAGGAAATGAGAGAGGAATGCTCTTGA AAGGTGGTCTGTGGATCTGTCTGAATAG. AAGAGCACAGTNAGTATGCATTGCCGGAGAA **AACGTCCTTGAAGCTGCTTGTCTCATGTGTATGATGTG**

CCCTTAGCGTGGTCGCGGCCGAGGTACTCAACAAGCAGCTGACTTATGTTTTATTGGACA TTGTGATACAGGAACTGTTTCCAGAGCTCAATAAGGTACGCGGGAAAGTCAACTCAGTTA CCTCTGTTTGGTGTGTGTATCACTTGCAGATGCTGTCTACCACCTTTTCAGTGACATCCT AGAAGCTTCTCTATTACCACAGNAACTGGCTAACTANANATGATCTTTCCCTAATTTTCA TGAGCATCTTTTTCTGATATAAACCAGGGAGGGAAAAAAACAAAGTTCCTTCACTTTGA AGGGAATATTC

Sequence 827

CCCTTAGCGTGGTCGCGGCCGAGGTACATATATGAAAAGCCAACATTCTAAAGTAGAGGT TCACTTAATTTTTTTTTTTTCAAGAGAGGCTTCTTGGTAGTTTCATCACACAGTGGTTT TATTAGGGGATGTAAGGATTACAGAAACATCGTATTTTTTAACATATAGTATTTTTTGAA TATGATTTGAATTAATATAGAAAAGTGCATTTTTTCCAGTTTTTTTAGGGAAAAGGAGAT ACTTCACCAGGAGGATAAAAAGGAACAAGAGGGGAAGGGGAAATAAAAATTCCAGAAAGA TGAAAAATTGTTGATGTAAGATGGAGGCACATTTT

Sequence 828

CCCTTAGCGTGGTCGCGGCCGAGGTACAAACAAGCTTTGTTAAACTAACCCTTGCCATCC TGGCTACTTTACCCAATTAACCACCCTAGCCCAGGACGTTTTGCTTTATCACATGTTCAC AGTTTGCTATTCTTTGTTCAATCTTGTAACTGACTGCAACTGCTTCTGTGGGTCTCTGTT TCTTTATGAAGTTTCCCAGGCCATACAAAACTTGTGTTAGCCTATCTTCTGTCAGTTTAA TTGTGGAACTCAGCCAGGCCCTTAAGAGGATGGAGGAGTTTTTCCCACAGCAGTTCTG AATGGGATGAAGTGAAAAATAAAATCTCCCCATTGCCACTACACCACCTCCTGATGAGTC TTGCAGCAGAAATACCGTTTAACTGTTTCTGCTTTTATTTTTTTCTGATTATCATCCAGT TTACTTATTCTTTACATTGAAAAGGAACTTGCTTTGTAAATCTAAATTCCCTTTNCCTTC TACATTTTTTT

Sequence 829

CCCTTTCGAGCGGCCGCCCGGGCAGGTACTCACAAGCAATAACAGATTCATAGATCAGTT GACATTGGCTGGTCTCCAGGACAGGAATGTGGCCAAAAGGGTGCTTTGTATAGACGCGGG GCACTGAATCTGTGTCTCCCCTGTTACCTACTTTTGCCAGTGAAATTTAAGTTTTAAAAT ACTITCAGAATGTATTTTTACTACTGCAAGTTTTTGGTCTTTAAAATGTCAAGTAGCATC CCATATGGGCTAAAGAATCCAAATATTTTAAAAATCTGNCTCTCTTTTCTTCTCTCATAA AGTGAATTATTCCTCTTTTTTGTTTTATGTAAGTGTATATATTCTTAGTTTTTCTTGAAA TCATTGTAATGCTAACTTTGTTGTTTCAAATATCTTGGTGATTGCTTCATTATCTCTTCA ACAAAAAAACCTTTAATT

Sequence 830

TATTTGTTGTAGCTTGTATATGAACATAATTTTCTTTAGAGGTAGTCACTGTTCTCTCCA GTATGACCCAGGTTTCTTGACTCTGAGTAATGCACCTTCTATAACTATCTAAATTTCTAT

Table 1

TGAAGCTTTTTGGATTATGAGTATGCTGACTTTTCACGATTGGCTGGTGCATGTTTAGAC TTAAATGTCATATCCTTCATGTCTCAAAGCCAAAATAGTAACATCTCATCTCAGAACAGA GCTGTGACCACATGCCAATATATGTGTCACAAAGTCTACATATGTTACATTCCTTGGAAG TCTCCTTAAATGTTTCACA

Sequence 831

Sequence 832

CCCTTAGCGTGGTCGCGGCCCGANGTACCCTAGGCAGGACAGTCAAGAAAACTTCATGG <u>ATCTGTAGTGTAAAGCTAGGGAGAAAGAGGAAGAGAGATGCCTGTTTGAATTTCTGTAACTA</u> <u>GCGTATCTCCAAGATAATGCATGAACAGCCAGTAAAGATGAACGCAGATTATTGATGGAA</u> <u>AGAACACACATGGAGAAGAGAAAAAGCAAGTCCACAGAGCTTTTAACATACACTCCCTCA</u> <u>CCCCTACCCCCAGCTTAGAAGGGCAGGAACCTGCTGTCCAAAACAGGAAATATAGGAAAT</u> <u>CCAGCTTGAGAAACTATCCACT</u>

Sequence 833

Sequence 835

Sequence 836

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Table 1

CAATAATTAATTTCAATAGCGATCCCCACCATTTATGTCCTAGGCATCTACACAA TTGGTCTCTGAGCGAAAACACAGCCTTATCTGCAATAAAAGCCTCTGCTTTGCTTTGGCA TGTTTTTACAATCCCGCGCA

Sequence 837

TTAATAGGTTTTCTTAGCTTGACAACTCATTCTCTATATTCACNAACATCTCCTGACTTG TGGCTTGTTTGANAGGCCCTGGGTGAGCCTTTGTTGCATAAAGTAGGAGGTCTGTTATTG TCTTGGTAGCATATGCCTTCATTATAAGTTTGCCTCTTTGAAAGAATATTCAAAGACCAA AATCAACTTAGGTATCAGATAGCAGCCACAAAATATGTTCTGAGGAAAAATTCATAGCAA TTTATAACAGCTGAAAAAAAGAGGGAGGATGCGGGAAGGTAGATTTTGTCAGAACTTACT AGACTAAGGATTTATTGCATATTTTTTACTAATTAAATG

Sequence 838

CCCTTTCGAGCGGCCGCCGGGCAGGTACTACAAAAATAATGAAGCCAGCTAATTACCAT CAGGTTACAACTTTACAAAGAAGTGAAGCAGCAAAGAGCTGAAGCAGAAATGACATAGGA AAACAGCAGCAAAGTCCTTGAGTCCCAACAGTCCACCTCAAAGACAAACATACTAAAGAA CAGTITICTGTTTCAAATTCTTTATTATACATCATGGTTGCACAATTTGAGGCTGGTTAAA TACAATTGGTTTTCAAAATCTCTTTGAATATTTTCTGGCTTATTACATGCAAATGACCAT GAAAATATTTGGCATTTTAAAATTCTGAAACTCTGAATAGGCACTTGCATGAAGGAAAAC AT

Sequence 839

TGGTCTTGTAGTCGGTTTGGAATTTTCTAAGTCAGGGTGGGGTGGGGGGGACTGTGCACGA GTCATGTGCAGACTGGAACCCATCTCCCCCTCGGTCTGCAAGTTAAAACAATTGGGTTGT CCTTCTCAGCATCTGCCAATGTCTCTTACTCAATCTTGGATCAAAAGGGCGTTGGAGGAG GAGGCTGGGAGGGAAATCCAGACAGTTCTCCGCCTCTGACATCAGGTCCAGCTGTTAGCA GATCCAGTGTTGGGTGATTCTGATCCATGCAGCCCTTAGAGGCGACACAGACGTGAACTG GACATTCTAGGAAGAAGAGCCGACTGCCGGGTGACCTGTCTAGTTCACATCCACTCACC ATTTCCCTCCTCGTTCCTATTCTTAGAAATAAGACTCTGACGCTCTCTTTTATACAGGCT AGTCCCCTATAGGCATGTCATGGTGATTATTTGCAATCCTNCTGACTTTCCTAAGAAGAG **ATCANACTTAGCAGGGTTAGTC**

Sequence 840

GTGGTCGCGGCCGAGGTACAAATAAATGTATCTTGGGTTAAGTGCTATAAAGGAAAAGAA CAGGTTCAATGGAAGGAAAAATTAGAATTGTTGATACATGAATGGAAGTAAATGACCCGG ACTTCCAACTCTAAATCTCTGTCTCATTTCACCTCTTTGTAAATAATCATTGCTATTATG TTAAATATCACAACTACTGTCATTTCTTGTTTACCCACTACATTCTAAGCTTGGTGCTGA CATCTTTGTATTTATTATATAAAATTCTCAAAATTACTCTGCCCGTTAGGCTTTCTTATC ACTTATTTCAAATGCAAAAATAAGGTCCAGGGAAGATAATTATGTNACTTGTTCATGATT GGAGAGCTAATAAGTGTCAGAGATGAATTNAACCAAAGTTTGGTGTGACAAAAGCCTCTG GTTTTAAGCAAAAGGGGAAAAAAAATTCTCATTAACTCCAAGGATTATCATCAGGGAGTC CAACAGGGTTCCCAATTTGGGAACTACCTATATTCAATTATCATATGGCAAATGGGTCCC Sequence 841

TATTATTACCCTTCCTTTGTAGAATGTATCAACACTAAAAGTGTTTAATCCTGACTAT AACAATTATTTGTTAACTATTAAAGGGGTAATTATACTCTAAGCTTCCAGTTTTCAGTTA AAACAAAAATGATTAATATGCCTATACAGAACTTTCTCCAGCACTTGGTAAGTATTTTTT AAAGTGAAGTCTATTCAGACTGCAACCAGTAAACTATTTATGCTTATAATTTTTCTCACG ATGGATTTCTGTTCCTTTGGTGCATTGGTTGTGTTTATTTTATGTGATCTTTTTTAGCTA CAAGGTGGGAAAAATGACAGTGGTTTAGAAGATAAGAAGCACATGAATGTAAAGTAAAAT ATGTGGAGATTTTTGGCCACTCTGTAAACTACTATCTGAAGTAGTTTTAAATATTTTAAG

Sequence 842

Table 1

Sequence 843

Sequence 844

GAGCGCCCCGGGCAGGTACAAGAGAACGGACGCACTTACTGAGCCCATCGCAAATG
TCAGGCTCTGTGCTATACTTACATTATCCCATAATCTTCAAGACCCCTCAAGACCCCACA
AAGTAACACAAAGCAGGAAACTAACTCANATTTACTTGCCAAAGGTCACACAGTTAATAC
ATGGTGGAATCAGGACTCAAAATCANGCCTGTGTGACTCCAAAGTCCAGTGCTCTCTCCA
CTTTACCAGGTAACCTTCATAATACCGGATTGGAAATCAAACCTGTCACTTTACTTTTCT
ATGTCCCTGAGTGANTCACAACTTTTTCTTCANCCAGCTTTTTTCATT
Sequence 845

CCCTTAGCGTGGTCGCGGCCGAGGTACCAGGAAATTGGTTTGATTGCCATAGGCTAACCT
TGGACCAATCACTGTGGCCAAATACATGAGGTATCCTTATTGGCTCCTTCTACTAGCAAC
AGATGGTTTAGAGAACAGTGTATCACAGAGAAATGGGGATCACTATTATAGGCAGATTGA
ATAATAAATGTTCACTCTACTACTCCAATAAATATTTGTTGAACAAATCAAAGCTGATCCC
TTTTTTCAAAATTTTTAATGTGACTCTTAGGGGATGGTGGATCCAGGAGAGAAGATTAGT
GCCACACTGAAAAGAGAATTTGGTGAGGAAGCTCTCAACTCCTTACAGAAAACCAGTGCT
GAGAAGAGAGAAATAGAGGAAAAGTTGCACAAACTCTTCAGCCAAGACCACCTAGTGATA
TATAAGGGATATGTT

Sequence 846

Table 1

CCCTTAGCGTGGTCGCGGCCGAGGTCGGCCGAGGTACAAAAGTTCTGAAATAACACTATA GGCTTAAGGAATAAGGGACCAGAAGTAGCCTGGTAGCCAGTGTATTTCTGGCTTTATACA TTCCTTAGGAAAAAAAACTTTATAGATGTATTTAAGTAGAATTAAGGTTTACACAAATG ATTTTTTGAGAGAGAGAGTCCCTAGGACCTAAACATTCGTTCTACGGAGATAGGGTCAAC ACGCAGATATTTATTTAGCAGCATGGTCTGCAGAAGTAGGAGGAGGTGACCAGATGTGAT GGATTATGCCTGTAATTCCAC

Sequence 850

Sequence 851

Sequence 852

Sequence 853

GGNCGGGCCGAGGTACGCACATACATACACACTAACGCTCAGCATAAACTTTCCATTACA CTTAGACAATGACTTGTGGAGGAAAAACAAGGATAAACAAGAGTCTCAAGAACTTAAGAA AAACATCAGAGTTGATTATTTAGCACTTTCTCAGGATTCTAAGGCAATANGCCTAANTTC AAAACGTGAAATTGTTCTCTATTTCCCATTAGTCATTAAATGAGATAAATGACAAGCTAT TGCTGCTTCTCCATTCTGTTTTCAAAGAACATTACAAAAATAAACCAGTGNGTTCTCTAA CAGTTCTAAAAACAGNTTG

Sequence 854

CCCTTAGCGTGGTCGCGGCCGAGGTACCAGAAGCAAGGCAGTTTAGGGACAAAGGGCATG AGCTTAGAGTCAGATTTCCTAGGTTCAGATCCAAGCATNACTACTTATTTTCTTTAAGAA CTTGGGCATCTGTAAACCAGGGATAATATCTTCTTCAAAGGGCTGNTGNGAAGATTCAAC AAGGTAATACATAT

Sequence 855

CCCTTAGCGTGGTCGCGGCCGAGGTACCTGGGACTACCCACCACCATGCCCGGCTCATTT
TTGTATTTTTAGTAGAGACAGGGTTTCACCATGTTGGCCAGGCTAGTCTCAAACTCCTGA
CCTCAAGTGATCCACCTGCCTTGGCCTTCCAAAGTGCTGGGATTATAGGTATGAGCCACC
GCACCCAGCCTTCAATTTTTTTTTAATTCTGATAGAGCACCATCTACTACATGCTTAATA
TTATCCATAAACAGACATGTCTGAGCACAGAAGATCATGTTAATGAAAGATTATTGAAAG
GTACCTGCCCGGGCGGCCGCTCGAAAG

Sequence 856

CCCTTCGAGCGGCCGCCCGGGCAGGTACAGAAAAAGCATAATGAATACAACAACTAGCA TCAAACTCAGTGTATATAAGAATGGCTAAGTGACCATTAGTCATGTGAAAAGCTTAACAA

Table 1

Sequence 857

CCCTTGAGCGGCCGCCCGGGCAGGTACCATGAAATAGGACCTTCTACGGTTTAAAATAAA
TGTTTGTTTTTTCTAGCCCTGTAGGTCAATGAATGCCTGACTCCAGTGACAGACCATAA
TTATCCAAATCTCTCATTTATGAATATGGAATATAAATATGCTAAATTGATTATGTCATG
AATAGACTTCTTTTTTGCATAACAATGTTTGGAGTTTCTCACCTTTCTCCTNNCCTTNTT
TTTCT

Sequence 858

Sequence 859

CCCTTTCGAGCGGCCGCCCGGGCAGGTACTGGCTGGACTTGAGGTGGTTTAAGTTGGCAG CTACATCGAAGGACTTCTGAAAAGCTCAAGTGACAGTTACACCTTTGCACTCTCCACATT CAGCTGGCCTTTTCCCTCAAAACATGGATAATCTTCAAACCTCCCTGAACAGGTGGAAAT GCGTCTTTCCTCTAAGCCAAGTTCTCAGTCCACATTAGTCCATACTTGGCTACAGAATTG ACGTTTGTGGCCACAATCCTACTAGAAATGACCTTTGGGTAATATCCTTATCTTGTTGAT CTAGTTAGGGTCAAGTAAA

Sequence 860

CCCTTAGCGTGGTCGCGGCCGAGGTACTTTATGCAGAAGGAAAGCAATTGCAGATGGAAA
AAGCTGAGATGCTATAAGGAATTACGGATTTTATAAAGAGATCACCATGTGGGTGAATGT
AAATATAGATGAACAATGAAGCATAAACAAAATTTTAATATCTTACAGGCTAAAATATTT
AGAAATGAAAGACAACAATAGCATATAAGTTAAGAAAGGGGGGTAAAAAGAATCAAGAGCA
TTCTAAGGTCCTTATATTACCTGGAAGGAGAGTAAAGATAATGACTATCTTCAGGCTGAT
AAATTAACAATGTATGCTGCCATTTC

Sequence 861

CCCTTTGCGGCCGCCCGGGCAGGTACCAGCACAGCAATTGCTGTATGTTTTTAATT
ATCGGTTTTCACTTGGAGGGGCCAGTTCTCTATATTTCAATCTATTTTCTATATCAGAAA
TGAGCAGGCATTTTAAAAAATGGCTTTCATTGATGGAGAGGTAAAAGTGAAATGGCTTTG
TTGTATTTATATATAAAAAGGCCATTTCCCAAATCTAGAATTTATTACTAAAAATCAAGT
TTGCATTGAGGGGAGGAGTATGATTTGCTCAAGCTTACTTTTTTTATAGGTGGGGTTTTT
ATATTTTCAATGTGATTACTCAC

Sequence 862

CCCTTAGCGTGGTCGCGGCCGAGGTACACATTCCATGCTGGGTCATACCTGAGTGCCAGT GGAATATAATTTGGAAGGAATAACGTTGTTGAAAAACATCCTCTACAGACAATATGAACA ATGCCTTAGTCATCTATTGATTATGACAATATACTCTTGAACAAATTGTTTTCGGTTCTG GTTTCTGTGGTACCTGCCCGGGCGGCCGCTCGAAAGGG

Sequence 863

Sequence 864

CCCTTTCGAGCGGCCGCCCGGGCAGGTACATGCTCTAAAATGTAAGGATTCATTTATGAG
AGAGTGAACATACTGCTTGTAGCTAAAACATTACAGGAGACCTTAAAAAGGGGTATAATT
GGTCCCTATGTGAAATGAACCTGACATATTTTTATAAATTATTTGTGCATGACTATCTTT
TGNTGATAGCACTAGGAAGACTTNTAACGTTTAAATACTTTATTTGCCCTCAATTACTAT
TTAAAAGTCCTATAATTTTAAGTAATTTTACAGCTGACAAAGATAAATATTTTTTTCTTT

Table_1.

TAGTTTTTCTAATGTCTTGGAGGTAAAGTGGAAATGGCCTGTTTTGACACATAATTTCTA GAACTTGGAGTTAATTTTGATCAGTTCCATTTTGGGT

Sequence 865

Sequence 866

TAGATATAGGATAGTGATACNTTGAANAGGACTATGAAAAGGGACAGTAGGGCTTAGTGG
AAAAAGTTTTAACGANNTCTACNGTTATTGAATNAAANTACATATAGCGNGATTCTTATT
ACTTGAAATTAGGAGGAGAAAGAATTTTTTGAGGTAAATTNGAAAAGACATAAAATAGAC
TA

Sequence 867

CCCTTTCGAGCGGCCCCGGGCAGGTACGCCGGGCATGCAGCCAGGCTAGACCGGCTC

Sequence 868

CCAGTGTGATGGATATCTGCANTTITCGCCCTTTCGAGCGGTTNTTNGGGCAGNTTNTTT CNNCCTTTCTGTGNTATTTGTGGCGGNATGTTGNATACTCTCTACCATGGGGATGAAGAC ACAAGAATTATGATAGTTCATTGAAAAAGGTTGAGAATTCAGAACTTGTCAGTTTCCACC AATAATGGCAAAGATACAATATGACAAAGTTCAGTTGCTTAAATGAATCTAGGAATGAAG AATCTAGAAATTATAATGGAGAGGTGATTAGGAGTTTAAAATGGTTTAT Sequence 869

Sequence 870

Table 1

AAAAACT

Sequence 871

Sequence 872

Sequence 873

Sequence 876

Table -I-

ACAGCAAGAGGGCAGATGAAGCNGACTCAAGAGAAACAGATNAGACCAGAGAGACCCTGG
TTCTTGGTTTGTTCTGAAGNCATGGNCCATCTNCTATTCTAGAATTANAGAGTTCCTGGA
AAATTCTTACCANAAAAAATTTCCTTTTGGNTTNGACGCTTAATTGAGGNTAATTTCTAT
TNTGGGCAATNTCAAAGNNATTCAANGAAAAAAAAAAAGGG

Sequence 877

Sequence 878

CCCTTTGAGCGGCCCGGCCGGGCAGGTACATGTTTGTAAAATTCCTTAAAATATTTATGC
TCAAACCAACATTTCCATTTTATCTATCTTAAAATATTCTCTCTCTCTCTTTACGCCTAAT
TTCTTAAACTCCCAGAGTTTTTTCTGTA '.GATCTAGTCATCTGTAGCACTTCTCACAAA
TTAAGCTCTCTTATGCCCCAAACAGTAACGAAAGAGGTCTCTTAGTTGGACAATAAGCAG
TGAAAGATATTTCTTATGGGACAAGAAATTAACATTATTAGTCAAATGTTGATGCCGGTA
GGCTGAGAAATGATTCTCACTTAAAAGCCCCTGGGTTTTAAACCTCTCTTAGAAAAACAT
TAGT

Sequence 879

Sequence 880

CCCTTAGCGTGGTCGCGGCCGAGGTACATACAATAGAGTATTATTCAGCCTTAAAAAGGA
TGAAAAAATCCTGACATGCTAAAATATAAATGAATGTTGAGAACATTATGCTAAGTGAAA
TGAGCCCATCTAAAAAGGCAAATACTGTATGATTTCACTTAACTGTGATATCCAGAGTAA
ACAAATTCATAAAAACAGAAAGTANAATAGAGGTTTCCAGGGACTGGGAGTTACTTGATA
TAGAGTTTCAATTTTGTAAGATAAAAAAGTTCTGGATATTGGTTGCACAGCAATATGAAT
ATACTTAACACTACTGAACTGCACACTTAAAGATGGTTAAGATGGTAAATTTTTGTTAGGT
GTTTCTTACCACAATTTAAAAAAAGAAATTTTAATTAAAGGAATTAAAAAATTTACAAAAT
ACTATTCATCATTGNGTTTCCAGTTTATATTCAACCACAGCAGTATTTCAGGTATAGTAA
TTAACTTACTTTCA

Sequence 881

Sequence 882

Sequence 883

GATAGCCAGCTACATGTGTAGTTTGATCATTCAGTTTAACCGTTTTATCACTGTTGATAT GAACATTGAGTACCTCGGCCCGCGACCACGCTAAGGG

Sequence 884

CCCTTAGCGTGGTCGCGGCCGAGGTACTTTGATACATGTAAAGTGCAAGGCACCTTGCTA
GAGAGCATANGAGCTATACTAAGATATAGAGTCCTGCACAAATCCACAAAATAACATGAA
TACAAAGTGTCCTAAAAGTCATGCCAAATAAAACAGANCATATAACTGGGCAGAGGGATG
GAGAGTCACATGCTGGAGGAGGTGAGCGTTGACATGGTCTTATGGGATATGAACTTGAGA
TGTTGAAGTAGAACTGAGACATTTCTGGAAAACTANATGTATNAACAGAAGCANGAGGAA
TAGGAGATGGTTTGGAAAACATCAAGCAGCTCAGTTTCTTGGGGTGGTCCAGGAGAAAGA
AGCTCAAACAACATTCAGTGATAACACTTAAAANNATCAAAAATTT

Sequence 885

Sequence 886

CCCTTAGCGTGGTCGCGGCCGAGGTACATATGGCTCGGCAAAGGGGGACTGGATTAATAA
ATTCTGGTAATATAGTAAGGACAAAATAAATGTAAAAAAGATAGAAGTAAATGGAGAACA
TCAACATGAACGCGTGCTCCTTTGAGTAGAAAGTAATTTTTCTGCTTTGTCACTCAAATA
GCTGGCAGACCTGACATCACCCTGCCTCTGCTTCCATGCTCTAAAACTTTCCTGGGCCTC
AGATTTGGATGCTAATATGATTTTCCACTTAGTGGATAAGAGCTCCCTGGAGAAGGGCTC
ATTCTTGGATGGACAACAGAATTAGAGCCTGAGTTCTAAGAGCTTAATAAAACAAAAG
Sequence 887

CCCTTCGAGCGCCCCGGGCAGGTACCCGATGAAAGTTTAAATCTAATCAACAGTATT ATGCACTGGTTGAAGAAAACCAGGATTAAGACGGAGGATAGTCAGCATGGAATCTAANAA GGGAAAAGTCCGNTAACTATATGTGTTCATNAGATTCTAAAGCTGTTAAGGGAGAAAGAC CCTGAGTCTAATGAATATAAACTTTAAATTTAAAGAAAAACATGNTCTGTTATAGAAAAG TGGGCTTTTAANTTTTGTAAAG

Sequence 888

CCCTTAGCGTGGTCGCGGCCCGAGGTACCATTAACCGTCTTTTAAAAAATTATTAGT TTCAGTGCTGTTTCTTGAGGGAGCACCGGTGGTGCAGGTCAGGTTTGTCTTCTNAAT Sequence 889

Sequence 890

Table 1

S quence 891

Sequence 892

Sequence 893

Sequence 894

Sequence 895

Sequence 896

CCCTTAGCGTGGTCGCGGCGAGGTACCTTGAGCTGCCTCAGCACTCTTTTGCCATTCGTG CTAGAAACAGCCAAAGCCAGACAACCAAATTACAGATGCTTAAATGTTAATGCCAGACAC CAAGGCTCCGTGAACTTCCCTGTTGAACATCTGACCCCGACTACTTGAGGACATGAAACC TAACTGTGCAGCTAATTACACCTTCCAAGGGCAATGACATCGGGTCCTATGATTTTATTC AGGAAAGCAATAAGGCAATCGGGGTCACTGTGAACATCATTTGAAGGGAAGTAACTTCTT AGCTTTATTCCACAAATGGTCTAT

Sequence 897

AGATCTACATTACTTTACTAGAAATATAGGGCAATAATAAAATTTCCAAAGCCAAACTGA ACGATAATATATTTCTTTAGAAAGTCTCAGAAAACCCATTCCTGAATGACAAAACGGA GAGATAACTTACAACTAGGTGATATCTGAAGTTAAATTTTCTTGGTTATCTATTTCAAAA ATTCACAACTATTCTGCACTAAAATGTTTCACTGGGTCAGGCACAGTGGCTCATGCCTGT AATCCCAACACGTTGGCAACCTGAGGCAAGAGG

Sequence 898

Sequence 899

CCCTTTCGAGCGGCCGCCCGGGCAGGTACTGACAGATGCCTGGGTAACCATGTCCAATGT
TCAATTTACTTTCTGCTGGACAGATAGAAGGCTCTCCTGCAGCCTTTTCGTCTTCGGGTG
TCCGCTGGTAAGAAATCCGCCACACAAGAAAGCACTGACATTTGGAGCCTCATCAGGTTC
AGAGTTGAAAGTGAAATAAAGGATAATAATCTTTGTCTTATTTTCTTTGTTTTAATGTTT
CCCAACTTACGTTAGGACAATGTCAACAAAGACAGATGTCCCTAATAGTAATTGCAGGAC
ATGTGTTTTCTCATTCCTATC

Sequence 900

Sequence 901

Sequence 902

CCCTTAGCGTGGTCGCGGCCGAGGTACTTCTATACAAGGCAAAATGAACTCTAAGTAAAA
AAGAAAATCACACTTCTAAACACAAATTAACCATTTCAGTATTTAATTGCTCCTAAAAGG
TGTATTCTACTTCATTAAATGTAAGAGAAAAGGTTACCTACATTACGCAGTTTAAGAAAC
AGGATAAACTTTAGCATATAAACCAGTCTTGATTACAATTTCACACTTTCAACCATCTTA
TTTATACCTCTACATTAGATAATCTTTAAATTTCCATCATAAAGGTTTTCCCATGGTTAAC
CTNCCATATAAAATTTTGGTAATCCTGCCC

Sequence 903

Sequence 904

Sequence 905

CCCTTTCGAGCGGCCGCCCGGGCAGGTACTTAAATAAAATAAAATTAAAACAAATCATTT TTAGAGATAAAGAGTGAAGTTACTGGAAAAAGGTGACTAGGGACTCTGTTTATGAAGAAA GGTTAGTATTTAAATCATGAAAAAAAGTAAGAATACTTAATTATTCAAGTAACTTAAAAT

TGTAATTCAGAATGGCTTTTTATGTATCTAAAACAATCTGGGGCTGCTATAAAAATTCAG TCAACTTCTAAACTTCCAAACACAAAATAGTTATACTCAGTCTAAGAATATCCGACCTAC CGTGCAGGACCAGAGGGCTCATCTCTTGCCGAGCTTAATACAGTTT

Sequence 906

Sequence 907

Sequence 908

Sequence 909

Sequence 910

CCCTTTCGAGCGGCCGCCCGGGCAGGTACTCAATGGGGTAGGGTGTCTTGGGATCTGACT GTTTCTTAGACCTTCAATGCTTCTTGGCTTTCCTCACTGCTAGTTATAATTCAGTTTTCT CAGGTCTAAGTCATCACTCTTTTGTCTGCTTTTCAGCTTCCAAAAATTCATTGCTA TTATCTCCTCTCTGTTTTCCCTATTGGTGTTTTGTNTCTTTTAAAAAAATTCC TTTGTGG

Sequence 911

CCCTTAGCGTGGTCGCGGCCGAGGTACAACCTAGCCAGCTGCACAGCAGCTCTCCAAGAA
AAAGGTGTATATTAGACAGATTCAATTATTCATCTTGTGATTATGAGTAGTAACCAAATT
GTCTATGTAATTTTCTTATGGTGAACTACCCAAAGCAAGGCCTCACCTTAGGCTACCAGC
TTGACTCTTAAGTGGACAGAAAGAGCCAAAGGCTAAAAGGTTTGTGAGAAACCTCATGAG
CACTGAGTGTTCTAGTTCCAGATGAAAACCGGTTTCAGGTATGAAGCAAGAGGGAGTGCT
AATTGGTAGAAGTAATTACATCTT

Sequence 912

Sequence 913

CCCTTTCGAGCGGCCGCCTGGGCAGGTACCACAAAGTTATTGCCTACATCCAGGTCAAGA AGATCTTCTACTGTATTTTCTTCTAAGAGCTTTTACATATAGGTCAATGATCAATCTAAA ATTAAGAGTTGTGCAATCATTAACTCTAGCTTTAGACTGGTATACTAATTGGTTTGTATA CGAACTGGGTTAAAGGCATAGGACACATGCAGGCTGTGTTCATTTCACAGCAGGGCTCTG

Table 1

TAATTAGGCAATAATTACTTACCATCATACCTAGTGAGGCAATATGGGAGAAACAAAACA GGCCATACAGCTTCACTATTATTCCTACT

Sequence 914

Sequence 915

Sequence 916

CCCTTAGCGTGGTCGCGGCCGAGGTACTTCATAGAGGTCCAGACCCCTTGCGTCTGGCAT
TCCTTTGGTCTATAATTCAGTAAACTCTGCTAAAAAGGAAACGAGACTAGCTTGCTGTGG
CCCCTTAAGCGACCCAGGGTAGCTTGTGATGGTTCAGATTATGATTTGTTCTAGAGCTTT
TCCAGAGGCAGATGTTGAGGAGTTTATCCTATTTGNCCCCTNCCCTTTAAACAAACAAAA
GTGCCGGCTGGACGCANTGGCTCATGCTGGTAATCCCANCNTTNTGAGAGGCTNAGGCAG
GCGG

Sequence 917

Sequence 918

CCCTTAGCGTGGTCGCGGCCGAGGTACTACAATTATAAAGTTACCAATAACTTTACATTA
AGAAAATCATTTTCTTCCCCTTGAAAACAAAGTATGTCCTCACTTTCCCTGCTCTTTTAT
TCATGGCAGTATGAAATGTGTCCCTGATTCCCTCCGACCTGCCACAGAATACTGAAACAG
TGGCCGTGGGAAGAAATACCAGATGGTATGCATATGGCTTTGGGAACAGCTTTCAGCAGT
GGTCACTTGTCTTTTTTTAATGCATTTCAAAATGTGTTTGGTTAGCAAAAAATAATGAGA
TAATTCCCTCAAATAAATG

Sequence 919

Sequence 920

Sequence 921

CCCTTAGCGTGGTCGCGGCCGAGGTACTCACATGTAAACTTCTACTTTCCCCTTCAGATT
ACAGCAACCATCATGCCAAAGCTATACACTCTCAGGGAATCCCTGTGGATTTCACTGATG
ACCACTTGACCAACTATCATAAAGATCAAGGCCAGGGGTTCTCAAACTCTCAACATTTGT
GTGCTCATCTCCCCTTCACCCAGAGACTCCCCAGGGCTGCTGGGCCACACTTTGGTTTGT
TTGACTGGAACATAGTTTGAAAGGGATGGAAATTTCCAAAAGGTGTTAATAGACACATAA

AGATTTTAAATATTAAAAAAAAGAAAAGAAAAGA

Sequence 922

CCCTTAGCGTGGTCGCGGCCGAGGTACATACAGTATGCACTCCCTTCTCTGTGTTTTTTG
TCTGAGTTGATGATTTGGAGCTCAAAGAGCTAGCGGAGGGAAAAGCTGAAGCCATTCAAA
CACATAATGAGAATTGGAGATGTAAAAGAAGGCTGAGTTCTAGGAGTTGCAACAACTTAG
GAGATAACAGAACCAATTCGGAATGAGCAGGAATTGTAGGAATGCAGGCGAGGACTAGAA
GAATCAGCTACATGCTGTTTACTGGCAAAGCAGGAGAAATGTGACTGAGGACAGTATGCC
ACTGAAAACTGATGAAAGAGGAGGAGAACAGGAGG

Sequence 923

CCCTTAGCGTGGTCGCGGCCGAGGTACTGTTGTCTCATGCTCTCTTTTCTGTTAATAGCAC CTCAATTCTACTCTGGGGGACATTCCTCCTCTTTTTTGGTCTGGAATGTCCCCTGGCTT CAGGGACAGCTCAACATGGGCCTGGACAGTCAAATTCCATCCCCAAGCTTGGGACTCAGG GAGACCATCCAGTGACTTGTTCCTGAAGTGCTGGGAAGGCAGAGCNTCCTTTCTGCGGGG TGCTGAGTGATGGGACGACGAGGCTACTGNGCTCTCCAAGCCGGNGCCCAGGACC AGCCTGCCTGAGAACGAAGCCAGC

Sequence 924

CCCTTTCGAGCGGCCGCCCGGGCAGGTACTTGCCTTGCAAAATTATATTACAAGAAGAAG CACACTTGTTATAGAAGTGCTGAATTGTATGGAACCTAAATCTGTCAAGTTACCTGTCTT TCAGGTCCGTCTCCCCACCTCCCAGACCTCATTATATTATCCCGAAAAGAACACGATCTC TTTAAGGCTAGGCAAGTATTGCGCTGATGAGCCAGGGACTGCCCACCAATTGGCAGGCCC ATTGGGTGATAAATGTCCAAGGACCTCTAGGCTGACGACACATTTTTCATCATTAATCCA GCCTATTGTAACCAGGGCCACTCACATTGAT

Sequence 925

Sequence 926

CCCTTAGCGTGGTCGCGGCCGAGGTACCCAAACACAAGATTGCTAATAGACTGCTAATAA
TAGAACTTAATAAATGAAATAATTTATTTCATTTATTGTTGCTTGGAATACAGAAAGTGC
TTAGTAAATATTGAATGAATCAACAAAGTACCTCCCAATATAGAGAAATCACTTCTGAAA
AGGATAAAACCAAGTTGATCCTATTCAATCGAAGGCATCTTTTGGGGCTGTTACAGTTAT
TTCCTTTATTTGAAGAAGGAATATGATATACCTACTTTGTTCCAAGTCACTGCTTATAAT
GTGCTAATGGTACCT

Sequence 927

Sequence 928

CCCTTAGCGTGGTCGCGGCCGAGGTACAAGAAAGAAAACAAATACCAAGTATTTACAGAT CCAGAGAAAGTTCACAAGAATGGGAGGATGCCAGTTCCAATGCTTTGTAAAGTCAAAAAT AGCCACATTGCAAAACAAACAAAAAAAAACGAGAACGTTCCCGAGTGTGCCTCCAAAACA TAAAGGAGAAAATCATACAGAAAAAACCTCATGTAAGGGTTGGAACTTGAGCAACCAGCTA TCCAAATACAGAGGGGAATCCTCGCTTAGCTAGGGCATGGCCTGAGAGAAAGCCCCTTCCT GCTTTCAGAGCCTACAAGTAGTCCCCA

Sequence 929

• 3.

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Table 1

GTATAAATATCAATAAATGTTGCAATCACAA

Sequence 930

CCCTTAGCGTGGTCNCGGCCGAGGTACGCGGGTGGGAAAGGGAGGATGACTCACTTACTC
TGAAATCTGGGCCCAGGAAGGACCTCTCCCATCCTTGGAGCCTCCTCATTCTCCTGTCTC
TCACNNGTCCCCCACCTCTACCATGATGTCCTCATTCTGGGAACCCCGAGCAGGGATAG
TGGCTTGGGCCCTTCNTCTGGCTTTTCTCCCCACNCTTTGCTCCACTTCTAACATTTTTC
TNCCTTCATCTNACATGAAAGGGACAANGGGTTAACCCCAAGNAGGGAGGCAGAAAACA
ANGNNCCCCACATCCTGGCTNTGCCTTCTGAC

Sequence 931

CCCTTTCGAGCGGCCGCCCGGGCAGGTACGCAGGGATTTANAGACAGGGTCTGGCTCTTT
TGCCCAGGCTGGAGTGCAGCACAATCATGGCTCACTGCAGCCTCACCCTCCTGGGCT
CAAGAGATCCTNCCACCTCAGTCTCCCTAATAGGTAGAACTACAGGTGCACACCACCACG
CCTGGCTAATTTAAAAATTTTTTTTTATAGANACAAGGTCTCACTATGTTGCCCACACTGG
TAAAGTATTTTTAAAATTTGAGACATGAATAATGATGCAAATCATCCTTTNTATGGGTCTG
ATTCTGTTCTGTTACCTTATTCAAGGACTAA

Sequence 932

Sequence 933

Sequence 934

Sequence 935

CCCTTAGCGTGGTCGCGGCCGAGGTACCTAATTCATAAGATAAGGATTAAATGAATTAAA
ATATATAAATCCCTTAGATAACAATGCTAGGCATATGTTAAGCACTATGTTAGTATCATC
AAATGTTGTTGTTACTGTTATGGAATTTATCACAAATATGTAATTATATGTTTCGTAGTG
ATTATTCATCACCCCTACTGGACTCTAAGGTCTGTGAGGATATGTCTATTTGGTTTACCA
CTGTATCCTCAACAACTGCTGGTTGTCCCTATTGTAGGTGTTAAGTGCATGAT
AGTGAATACATAAAGGTT

Sequence 936

Sequence 937

CCCTTTCGAGCGGCCGCCCGGGCAGGTACACTAAAAATAGAATATAAGGCAGTGAAATCA
AATCCTGGCTCACTTGAAGAAATAACAGTCTGTGGGCAACTNGGTTGTTTCTCAGGTCAC
CTCAGGGGACAGATGGTCCCTAAGGTGCAAAAGAATGAACTGGTGCTGATATATGACTGA
TAAGTTTCTGTAACGGGCCACTGACCATTTCAATTCCCAAGGAACATAAATTACCTTTTA
GCCTGTGTATTTACACAAAAATATGCAACCTGCAAACTTCTTCTGAGGACAGATGTCAAC

Table 1

TACTTTTCATTTTTTTTTTACAGTCAAA

Sequence 938

Sequence 939

CTTCCATACTCTTTTAATTGGATATGCCAGTGTGTNTCANTAATTTCCAGTGGCTGTAAA ACTTTGAGAAATTTTGTAGCTTTTAGAAACCACATACCTGTATTGCCTGATTGCTTATTA AGTGATCTCTTAGAGGTTTCCAAAGTTATGAGTTTGAGTTTACAAGTGCAGTTTTTTCC ATGAAAATTTCAGTGGTGACAAATTATAGAATTTATCATTCAATTCAGTCTTAACTAGAA ATAATTGCATATAATAAAACAGGTTCTTGACTGTTCTTTT

Sequence 940

CCCTTTCGAGCGGCCGCCCGGGCAGGTACTGCCACTTCCATTTTGTAAGTGAAGCCCAGA GAAGCAAAGAAATGTGCCCTAGGTCACATAGCTAGTCGGTGGCAGAGCTGTGATTGGCAG GTTGGTCGAATGCCTCCAAAGCCCTCGACCTTCCCACTATACTTCACGCATCTCTAGAGA AGAGCAGAAGTAGCCAGGATGAAGGTCTTCAGGGTTTAAGAAGAACTATGAAAAAGCAAA AGATTTTTGTTTTCGTGGTTTTTTTTACTATAAAGGAAAACTTTAAATAATAGCAAGAGTG CTATAGGTAAGATATCAGA

Sequence 941

Sequence 942

Sequence 943

CCCTTTCGAGCGGCCGCCCGGGCAGGTACTTCAGGAGATACATTCTGCTAGTTTGGGGTG
GTGTGTTCTATAAATGTCAATTTAATCCAGTCGGCTTATGATTTTCAGTTCTATATTCTT
ACTGATTAATGTGTATATACTAGTTCTGTTACTAAGGAGGGATGTTAAATTAATCCCTAG
CTGTAATTGTGCATTAGTTTGTCTCTTTTCAGCTGCTTCATAAATTTTTGGAGC
TGTTAGGTGCATATACGTTTAGGATTATTTTGTCTTCTTGGTGAACTAGACCTTTTATCA
TTAGGAAAC

Sequence 944

CCCTTAGCGTGGTCGCGGCCGAGGTACAAAAATCAACTTTCCTTTTTACTATCTGGAAAT
AGGAAAATGTTCCATTCACTATGGTGACAAAACTGTAAAATAGGAATATATTTCTGAGGA
AAGTATAGGTATTTACAAATAGATAAACTATATTCTTAGATGAGAATACTTAATACCCAC
TTTACAAAATTAAAAATGAATTACAGCTTTTTAAAAATAGATTAAGCTGGGTGTGATGAC
ATGGCACCTATAGTCACAGCTACTCAGAAGGCTGAGGCAGGAGAAGCACCTGAGCCCAGG
AGTTTGAGGCTCTAGTGAGCTAT

Sequence 945

Table 1

Sequence 946

CCCTTTCGAGCGGCCGCCCGGGCAGGTACTGCATATTTAATGAATTATTTTATAAATTGC
TGTTGTGAAGCATTTGTGAATGACCTGCCTCCTAGCTTTCAATGCTATTGCCCAGGCTNG
ACTTTTATTGCAACTGTTTTATGATACAGTTTTGCATTGTATGTTTTACTTTTTAAAGA
AGCATTTCCTGGGAGGTTTCTTTTTCTGGTTATGAAAATAATATATGCTTATGGGGAAAA
ATTGGAAAATAGAAACNAGTATCTAGAAGAAAAAATCACTCATAATTCCANCACCCTGTTA
ATACTTTGTCTTTTCTTACAGTTTCTAATA

Sequence 947

CCCTTAGCGTGGTCGCGGCCGAGGTACCAGTAGATGAGAACTACTTATTTAGAGTGGCAG AGCATGCTATAGAAACAAAATATGAGTAATTCTAACTGTAGTTATGTTATATTAGCATAG TGAGATAGTAACATTAATAGAATTCCTTAGGTGGAATTTCTTTAATGC

Sequence 948

CCCTTTCGAGCGGCCGCCCGGGCAGGTACTGCATATTTAATGAATTATTTTATAAATTGC
TGTTGTGAAGCATTTGTGAATGACCTGCCTCCTAGCTTTCAATGCTATTGCCCAGGCTGA
CTTTATTGCAACTGTTTTATGATACAGTTTTGCATTGTATGTGTTTACTTTTTAAAGAA
GCATTTCCTGGGAGGTTTCTTTTTCTGGTTATGAAAATAATATATGCTTATGGGGAAAAA
TTGGAAAATAGAAACAAGTATCTAGAAGAAAAATCACTCATAATTCCAGCACCCTGTTAA
TACTTTGTCTTTTCTTACAGT

Sequence 949

CCCTTTCGAGCGGCCGCCCGGGCAGGTACCAAGAACTAAATTGTGATACGATAGGTGACT
TATGAGTAGCACAGAATGTAATAGGCCCATCTCTACCTAGTTCTGGTCACCACACTTCTG
TCAAGGTAGCTCGGAGAGACGGTGTCTACTTATTCACCACATCATGAGATCACCTCAAAC
TGAGCAGGCAGCCAATGAAAACCGTGAGCTTTCTTTACATTAACTTTCTGAAAGTCATTT
TTTCTTATTCCACTTTGTGCCTTTTTTTAAAAGCTGCAGCTTCATGGAATTTAATCCTGG
TATTTAAAACACT

Sequence 950

CCCTTTCGAGCGGCCGCCCGGGCAGGTACTTGGTAGGTTGATCTCTTTCATTCTCATGGT
TTAATTACCATCTATTCACTGATTACTCCCAAAACTGTATCTATAGTCCAAGACTGTTTC
TAAAAGGTCTGCACCCACATATGCAAATAAATA

Sequence 951

CGGCCGAGGTACTCTTAGGAAAGAGTAATGGGGTTGAGGATGGTTAATTTAGCCCATCCT
AACTTCTAGTGAGATTTTTTTCANAATATTTTGGATGGTTCTCTCACTTTNGTTATTAAG
CATTAGGGAAGAAGATTCTGCAGCCTACTCAGGTGAGCCAATCTCATGGCATTGAACANA
NAANATATGTTTTCACGTCTTTAACCANTGTTTTTCATAGTGNAAGTCAGGCCTTTCTCC
TTTGATCTAAGTGGAACCAAGAGGTTAGATACTCCCTTTNCTTTAGTTATATAATGGGCT
TCATGTAACT

Sequence 952

CCCTTAGCGTGGTCGCGGCCGAGGTACACTCTGTAGGTCTACAGGTAAAAAGCTATTACG
TTGCAAACATTATAACGTAATGTAAGGTCTGGATTACATGCCTAAAAATCCAATGATTCT
TGGAACCATCAAATCTGTTAAGACTGAAAAGAATACCAATGTTTAAATATATCTATAAAA
TGCAGGTCAAGGGGCTAAGAAAATTGCAACACTAGAAAACCAACAAACTTAGGTTGTTCT
AACATACATACACAAATACAGGAGGGACGTTTATGGGTCACATCTGCGAAACATTTTTTC
CCAAAAAGCTGAATTTT

Sequence 953

Sequence 954

Table 1

TACA

Sequence 955

Sequence 956

Sequence 957

Sequence 958

CCCTTTGAGCGGCCGCCCGGGCAGGTACTCCATAATATAATCTTTTAAATGGGCAACTTC
TAAATATTGATACAACCATTAATAATAATGCTTATAGGGTAAAAGAAAATTTTTGAAGCA
CTGAATTCAGTAACCTGGGTCATGGTCCAATTTTGCTCACTACTTCATATCTTTTATGTA
GATTATTCCTATAAACATGTTCCCTAAATTCCACATCAGTTTGTAAAGTCAATGGATTAA
ATTATTCAAATGTAGCTATTTAACGGTCAGTAACAATGCCTAGAAACCTAT
Sequence 959

Sequence 960

Sequence 961

Table 1

TANAACAATGTCATCCTTTAATAATCTTTAAAAGAAGAACAACTAAATAACCCAATNACA
AAATTTGAAAATTAGGGTCAAACCT

Sequence 963

Sequence 964

CCCTTCGAGCGGCCGCCCGGGCAGGTACACTGCATAAAGCCAGAGTTAAAACTTCACTGC CAGCCTCTGAACAGAAGGCTGTTCTATCCACACTATCACAAGACCTGGTGGAGTTGAGGC AACTGCTGAATTACCATACAGGGAAGAATGAATTCAAGAAAATTCCCATGCAAGATAGGC TCTTAAAAAATAAATTTACACAAGAAAATCAGCACTGTAAAGGTAATTGATAAGCCCAAT AGAAGGGAAACCTATACAAAGAAATAGAAATAACTAAGCAATCTGAAATGGACTTTAAAT AATGATG

Sequence 965

Sequence 966

Sequence 967

Sequence 968

Sequence 969

Table 1

CCCTTAGCGTGGTCGCGGCCGAGGTACCAAGATTATGATAGCCTCTNAAAACAAATTGGA GGTTATAACCTTTTTCTATTCTCTGCAACAGTGGATATAGGATTGGAGTTATTTTTTTCT TAAGTTTTTGGTAGAAAACTAGCCCANTNGAAGTCATGTGGGTTTGGGATTNTTCTTTGT ANGANAGGNTCCTAATTACTAATNAGCTTTTCAAAATAN

Sequence 971

CCCTTAGCGTGGTCGCGGCCGAGGTACCAAGATTATGATAGCCTCTTAAAACAAATTGGA GGTTATAACCTTTTTCTATTCTCTGCAACAGTGGATATAGGATTGGAGTTATTTTTTTCT TAAGTTTTTGGTAGAAACTAGCCAGTGAAGTCATGTGGGTTTGGATTTTCTTTGTAGGAA GGTTCCTAATTACTAATTAGCTTTTCAAAATAGTTATGAGAATATTCAGGTTTTCTATTT CTTCCTGTGTCAATTTTGTTGTCTTTTTCTATAAATTTGTTCATCTATAATTTTAATATT TTTGGTATAATTTTTTCAAAAATAATCTTGTATTTATTTTACAAGGACAGGGATCTTTA

Sequence 972

CCCTTAGCGTGGTCGCGGCCGAGGTACTCCAGCCTGGGGACAGAGTGAGACCCTGNCTN
AAAAAANNTTTTTTTGNNTNTGANNNNNGANTAANGAAAAGAAAAGGAAAAGAAAAAACA
AGAAATTAGCTCATGATAGNCAGCTTTATATTATNAATTATGTGACACTTTGGATATTTC
AAAAGCACATTCACAAAGTGTATTGTCACTTAAATACCTCAAAATTTCCCTGTTATACAT
GCAGATCATTCCCCATTCANCCCTGGGTATGGGACTGAACTGTGACCTTGCCCGGGGCG
GGCCCGCTTCGAAAAAGGGGCGAAATTCCAGCNACACTGGGGCGGCCGGTTTACTTAGT
GGGATTCCCGAGNCTTCGGGTTACCCCAA

Sequence 973

Sequence 974

CCCTTTCGAGCGGCCGGCCGGGCAGGTACAAAGCTAGAAGCAGCCTGGTCCAGATGGCTA TACAAACCCNANACTGTCTACACCCAGACTTTATTCTTCTACAACCAAATTCCTCAAACA CACAATCTTGACCAGTANCAGTTGAAANGGGAGTTTAAGGTGGGGGTGA Sequence 975

CCCTTAGCGTGGTCGCGGCCGAGGTACGCGGGCTACCAAACCTGCATNAAAAATTTCGGT NGGGGCNAANAAANGNNNTTNNCCNANCCTCCGAGCAGTACCATGCTATATTGGTCACTG TAGCTCTGGTACATANTTTTNGAAGATTGGGGTAATGTGGATTCCTCTAGCTTTGTTAAG CTCTGTTGTTTTCACTTAGTATTACTTTAACTATTAGGGCTTCTTTTTTGGTTNCATATT AAATTTGTAAAATAAAATTT

Sequence 976

CCCTTTCGAGCGGCCGCCCGGGCAGGTACCTCTCATTTGTCACTTTTCAACACTTTCCTGG CANGCAGGCANCATAACTGGTCCTGCTGGGTGATCCAGACCACACTCTGCAACTCTTTCT TTTGAGCCAAGGCTCCCCTACTGTCTTTTCATTTTATGTCAAGGCAGGGGGAAGACCTCA AAGGGCTCTTGCATCCCAGTCTCACTTCCCAAGAGAGGCACTGAGGCCCTCCAGGATGTG GGGACAGGAACTTTGGGGCCAAGCCGGGGCTGTCCAGAAGATCACCAGGAGGGGCTTAAA TTAGTTNGAAAAGGGAGNAGGTCCTTT

Sequence 977

Sequence 978

Sequence 979

Sequence 981

CCCTTAGCGTGGTCGCGGCCGAGGTACTTAGATCAGATGGATTGAAACATGACAGCCCCA TTTCATCTGGCCGGTTAAGGTCCTCATGGAATGAAAAACACTTTCGGGCACTCTCCTATG AGAGAGAGAATGGGTTTCTTTAATTGCCAGATTGTCTGAACACAGCCTCAGCTACTTCTA GGAATAAGACGAAGCAGTGAGGAAGTTGCCAGTTGAGTGATTCTTGGGGAAAAAAATTAG CATTCAGTGCCAGCTCTCTAAAGTGTGGATTCTGGATTCTGGTAGAAGCCAGTAAAGAAA CGTTTTTCTCTGGAGTGGAAGCCTAGTAAGATTTATTT Sequence 983

Sequence 984

PCT/US00/33312

Table 1

Sequence 987

AAGGGTAATGAAATAATTAAT

Sequence 989

Sequence 990

Sequence 991

T TGGCCGGGGCNCAAAATTCANAAGNCAAGGGTTGGGGGNATCCCCGNGGGGAACCTTGGG G

Sequence 993

ATGCAGAATTCGCCCTTTGAGCGGCCGCCCGGGCAGGTACCCCATCAGAGTGTTTCTCTT GGCTTNCCTGTATGTAAACCTTACCTAATACTTTCAGTCACCACTCTTTCTGTGTTCATT TCCCTTTTAAGNCAAAAAANGGGANGNAAGTAAGTTGGNNATTTGGNGTTTCAAAGNGNC CAATTGNCTTTTGNCTTTTTTCACA

Sequence 994

CCCTTAGCGTGGTCGCGGCCGAGGTACCAAGTTGTTCTCAAACTTTCATGTTTGTGTATA CAAATCAGCTGAGGCCTTCACTAAACTACAGATTCCATGGCCTGGCCCTCAGAGATTTTG ACTCAACAGGTCTGAGTTGGGACTAGAAATATGCATTGCTAATAGGCACCCTGACAATTC

Table 1

CGATGTAGGTGGTCCTTAGAACATATTTTGAGAAATATATTCTGTAGTCTGGCAGATAAA GAATTCTTAACAAGGAGGTCCTGCCCGGGCGGCCGNTCGAAAGGGCGA Sequence 995

CCCTTAGCGTGGTCGCGGCCGAGGTACCATCATCTGTTTCCCTCTGGTTATAAATCTTTA
ATGAAAACGGATTTAAAAAGTCACATTATGATGCTCGAAGCTCTGACCTCTCATCACAAT
GAGAAGCAAAAGACATGCCATAAAGATGATATTTCCCACAGGAACGATATTAGAATTATG
TGATGCAATCTCATCCAAGGTCATGGTATCAAACCAGACACAGCTAAAAATGTATCATAA
TAGCAAGGATACAGTAGCAAGGATGGGCCTCAATAAACATTTAAAGTGGAAAAATTCTTC
TCTAACTCATATCAAGTACCTGCCCGGGCGGC

Sequence 996

CCCTTTCGAGCGGCCGCCCGGGCAGGTACCAAAATAGATAAGGATCCTGTTTTTTGAAAT GAACCCCAGTTGCGCCTTAGGCATTGTGAGTTGGCTCATTTCAAGCCAGTTGTAATATGG TTTTTTATTCTCTAAATTTCGGGACCTGATGCTAAGGAATGTGAATATACAGTTAGGTTC CTGCGAACCCTGTGTTGGTTCAAAAAGGCTGGTGGAGGGAAATTTATGACACTAAATGCT TATATTAGAAAAGAGGAAAATTGGCCGAGCACGGTGGCTCATGCCTGTAATCCCAGCATT TTGGGAGGCCGAGCCAGGTGGAT

Sequence 997

Sequence 998

Sequence 999

Sequence 1000

Sequence 1001

Sequence 1002

Table 1

CCCTTAGCGTGGTCGCGGCCGAGGTACATCTGTTTCTGAAAGCATTTTTCACTGAACCAA
TTTTCTATACCTTTTCTTGTATTCTTTTCCTTAGCTTTTGTTTATATGGTTGCTATATT
TTTCAAGCCTCATACCAGTCATATAAAACCATGATAAAACTTCATCAAAGCATACTTGGG
CAAATTTCAATTATCAAGTAAAATTGTAAAGAAAAATTTTTTACTAGTTTGGAAATAGAT
CTACATGTTTGATTTTCTTTCCTTCCTCCTCCTTTGTTTCTTGTTTTCTTCCCCCTTT
CCTAAAAAGTTAATGGCTATCATTATCTTCACCAAATTAGTGTTTGGTATACCCATAA
Sequence 1004

CCCTTAGCGTGGTCGCGGCCGAGGTACTCCTGAACTTAAAAGTTGAACAACAAAAAAAGA AGGAAAATGCGTTAATACCTTATTGTAATTATTTTTTTGGAAGACTATTTTTTATATT CAGAAGAAGTGTCAGAGTCAGCAGAAAGGGATTATTTCTCCATTTACCTACAACAATGGT TTTAAATGACTGGATAGATAGAAATCTCTTTCAACTTAACTGCTTAGCACATTGCATTTT TCTCTGTTTCAAGTTAGTTTTCCAAAGGATTACTGACTTTTTACCTAATTTGCTAAGGGA TGTCAGGCCTTAATGACATATTTCTCCTCAAATAAAGGATACAACATGC Sequence 1005

CCCTTTCGAGCGGCCGCCCGGGCAGGTACATAGTTCTGCTTGCATTGGTCCCATTACAAT
CCTGTCTAAATCCTGAAGTAAAAATGAATACCATAGTGAAGAAATTACTTGTGCATGTGA
AAGAGGCTGGTCCAACTCCTTAATTGCAACAGGGATTTGATTCTTCTACTAGTAGTTAGG
AAAGGTTGCATTAAATATTCAGTAGTTAAAATGTGCGATTCTAAATTTTTTGTAATTTCCC
ATGAGAGAATAAATTTTTTCAAAAATATTCCCAGTAGGTGAATGGCTTTAATACATGGTA
TCTGTGAAGATGGCAAATAAAATGAC

Sequence 1007

Sequence 1008

CCCTTCGAGCGCCCCCGGGCAGGTACCTTCTTGCCTACAGCGTTTAGCTCCGTTTGTT
TTGCATAAAGATCTGTTTTCTGACTTCGCATGAGGGGTAGATGTTCAGCTTATTCTCACT
ATGTAAATTACTTAGTAAATAATAGGAAGAGATGTTGAAATACAAACTTTCTGCCACCAG
ACCTTCACTCTATTGCAGTCATTTTCTCCCACTCTCCCCCCTCTCTCCCACTTCCTCTGA
GGATTACCTTCCCCTCTCTCANCATTCCTCTGTCAGTGGCTTTTTTTTTCCTTTGGCATG
CAAACATGCTCAAGTCTGTCTTATA

Sequence 1010

CCCTTAGCGTGGTCGCNTNTCGAGGTACTCTTTTCAGATGAAAGTGTTCGGTCACCTGGA
ACCTGTGAGTATGTGGTTTTTGATCTGTGACTAAACTGTCCCCATTTCCCAGTTTCTCTG

Table 1

CTCCGTCAAATATCAACATTTTACCAGGTTTCTCTGTTGTTGCCAAACCTGTCATTTTA
TTTGGTGTGGCTTCTTGGGAAACTTCCATGGCCCATTTGATGGGAATCAAACAGTGAAAA
CAAGGACAGATGCACCAGAGGTGGCATCAGGAACAAATGGGTCATAAGAACTTACCTTGG
CAGCAGCCCCAGAATGGTNAGGAGGAAAGGCACTNTAAGGTATCAGAAGGTAGAAAGGAN
AGGTTGGATNATAGNAATGGGGGAAAGGG

Sequence 1011

Sequence 1012

CCCTTTCGAGCGGCCNTTTNNGGCAGGTACGGGCTTTTTTGTTCTTGTGCAGTAACAGTG
AGGGCATGATTAGCCATCTTTGCCAGCTGATGTCTTGTTGGACACCTGCCTTGTTACCAC
TCTAACAGGCCCGTGTCAGCAGCTCCGCTTCCTCCTGACAAGCTGCGAGCACAGGGGACA
GCACAATCTGAAACTCTTACNGATACCAACAGCAACAAAAATGAAAGCAGTTATGGTGGG
CAAGCATTAATCTAAAATTTTTTTTAA

Sequence 1013

CCCTTTCGAGCGGCCCGCCCGGGCAGGTACGCGGGGGGTCTCACCATGTTGGCCAGGCCG

Sequence 1016

CCCTTAGCGTGGTCGCGGCCGAGGTACTATTATAATAAGTTAACATATTTCCCCTATATG CGGAAAATGCTGACTATATCTTTTGGTTGCTTTGGAACACTATCTCCTCACAACAGTCCT TGTCTACAGAAATGGGAAAGGGAAGGACACATTTTGGTTTCTGCAACATGGCAACATTCG TAAAACCAGAAATGATGTGTGACAAGAAACTAAAGAACTGGACGAAATTCACTTCCATTC

Table 1

Sequence 1017

Sequence 1018

Sequence 1019

CCCTTTCGAGCGGCCGCCCGGGCAGGTACTTAGTTACTCCTTGCCCATAGACGTGTTTGA CCTAGAAAAATTTCTTATACGCAACAGATATTCATAGAAATATATTAAAATAAAGCTT GAAGGGTGAATTAAATAAATATTTACTTGGAAGCTACAGTGGGTGAATTAAACAAATATT TACTTGGAAGCTACTTTATAGCCACTGGGCTGGATTTCATATACAGAGTTCTTGCCCTTG GGAGTTNTACAACTGCTTAACACTTTGTCTATGCTAGAATACA

Sequence 1020

Sequence 1021

Sequence 1022

TTCTAATTANCCCCAACACGGAAAAGAATGTAACACAACTGTCTTAGTTGTGCCATAGAG TTAGAATCTATCTATTAACATGTTTTAGGTNATAACAAGAAAAATAATAAAAACAAACCT ATTATGAGAAGCTGCCCATGCCAATAAATTTTGAAACATTACCAGGAAATATAAAAGGAA NG

Sequence 1023

Sequence 1024

CCCTTAGCGTGGTCGCGGCCGAGGTACCCACAATGGAAAGATGATCTTCCTGCATTGTGA
AGGTTGTTCTCATCAACCAAGCCTGCAATGACTAGACATTCTAAAGAGAAGAGTGATGGC
AATGGAAAGAGGACACATCCGCTTGCCAGGTCACTTCTATCAGTTGATGACATGCCATAT
TGTTATGGCTAGGTCAGCTTTCCACAAGTATGCACATGCAAAATAGAACTTGGGAAAAAA
ATCTTTGATTTGGCCCTTTACCAAGTGGATCAGGTGTCAGAGTTCAAGTTGAGCAAAG
GTCAGAGTTTAA

Sequence 1025

Sequence 1026

CCCTTAGCGTGGTCGCGGCCGAGGTACTGAGGCTAATGGTCTTAGTTGGGATAAGGAGAGTGGGGAAGGGGCAGGGGGAGGTGATGAAATTCATTTATCCTCTGTGATGCTATGGAAGAACAATTAAGATCATGTTTCCTACTTGATTTTAGTTGCTAGTCATTTCTTAATCTAAGCACCCCCTATAATTTACCTATGTCATCATGCAAAATCACCATCGGTAATAATGTGGGGGCGGGGGAAGTCTATACAAGAATATTAAGGCCCTGTGCGTGAGCATGTCTATAGTTAAAGACTTAATGAGAAAAAATCACAAATTGTGGTGCAAACAGCTGAAAGTAGAAGTAAATCACAACGTAATAAGATGCAACTTTGGAGGAGCTCAAAGCAACANATACGTTTTTTATCCAAAAAAGGAGTAAAAAGAAAAAATCGCNACGGCAGTTCCTTCAGATAATCAACNGATGATTTCATTTGANAACCATAATTAACTAGCGTTGTTTGTAAAAATAACTTTTTTCATTTTAATCNTTTTAATGNTTATTA

Sequence 1027

CCCTTAGCGTGGTCGCGGCCGAGGTACTAATTCTTTTCCTCTTTCCTAGACCGATTCTAG
TTTGTTGCCTTCCCTTTCCTCGGAAACCCCAAGTTTGTGGATGCTGCAGACACTCTGTGC
CCCCCTGCATGCTGGGTGCCTGGCCAGCTGCCAGGGCATAAAGACAGAGACGATGTGGCC
TTTGTCCTTAAGAATGAGGTTTGAAAGCCCCAGTTCTTCCATGTTAGGTGATTTCTTGCA
GCTCTTGGTATCTGCAGAATTAGTGTGAATGCTTAAAAAAATATTAACAGCTTT
Sequence 1028

CCCTTAGCGTGGTCGCGGCCGAGGTACTATGGGTGTAGTGTTACTATTACAGTTAATCCG TCCTTTGTGTGAAGCTGTTAAATGCAGTGAGGATTGGAGCACTGTCCACTGAATCTCTGT GCAACAACTTACTCGGTGTGGCAGGGGTNTCCNGGTGTCTGGCTCTGATCTTGGTCGCTG GATAGNCGNCTGTNTNTCTTTAGGTGCCCAAGGCGACGGC

Sequence 1029

CCCTTTCGAGCGGCCGCCCGGGCAGGTACTTAAACATTTAGACTCCTTTGTGCCTTNTGG AATGGGAATTGCTTAAGCTGTCCTGAAAAAATNGCCTTTAACATCTGTTNGATTGAGATT TGTGATACATAGAAGTTGGGAGGAAGATGTCGGAAAGCCCTAAGAGAGCTACTTGCCAAC CCCACCATNAGGTCTNCCTCAGTGTTCCTAGTCAGGACAGACGAGGCCGAGTCTGAAATT ACGATAAGNCTTTGAATGCAGCATAAACAGACC

Sequence 1030

Sequence 1031

CCCTTAGCGTGGTCGCGGCCGAGGTACAGTGGTGTGATCGCAGCTCACTCCAGCCTCAAC
CTCCCGGGCCCAAGCAATCCTCCCACCTCAGCCTCCCCAGTAGCTGTGTTCCAAAGAAAT
TTATTTATAAAACAGGTGTTGGGCTGGACTTGACCCGTGGGCCACAGTTTGTCAACTGCC
ATTCTGTAAGCTTAACATGTGTTAATTACTGCAATCTGAATAACAATGCTATGATATAGA
CACTGTGTTCCTTTTAATAGACAAAGGAACCCAGGCACAGAAGGATTGACTAATATGACC
AAAGTCACACTGCCAGTGAGTAGCAAGCCTGAGCTCTGAACCATGACAGTTCACATCTTC
CACGACAGCAGCTTCTCAATGCTCTTTTGGAGGGACCAGAGCCCAGGCAGTAGCAACGGCT
ATGAGGTGGTGAGACATGACCAGCAGATAAGCCCTGGGCAATGGTCCAGAGCTGGAGGAA
GTGGAGAACTAGCCATTTGTGACTTTTGTGAACAATCCCTGGGGAGTCTGGAAATTA
Sequence 1033

Sequence 1034

TCGCCCGCGTCCGNGNACGCGTGGGCAGGCATTANTTNNNGCCCAGTTTATGAGTGTGA GCATACCACAGTACTGATTACTGTGAAGCTGAGNCCCATTTTATATGTTNATTGATGTTT AAGATTTTCTGTTCAACAAATTGTTCATTTTCTTTGCCCGTNTTTTCTTTNTGAGTAATN CTTTGTATATTCNGGATGTTGATCATTATGGATTATAAAA

Sequence 1035

Sequence 1036

AGTCGACCACGCGTCCGGTTCGAGCGGTACCACGAGGACGCACATATGCTGGACACTCAG TACCGCATGCATGAGGGCATCTGTGCCTTCCCCTCTGTGGCGTTCTACAAGAGCAAGCTG AAGACGTGGCAGGGCCTGAGGAGGCCGCCCAGTGTCCTGGGCCACGCTGGCAAGGAGAG

TGTCCTGTCATCTTTGGCCACGTGCAGGGCCACGAGCGGAGCCTGCTGGTGTCCACGGAC
GAAGGGAATGAGAACTNCAAGGCCAACCTGGAGGAGGTGGCTGAGGTGGTCCGTATCACC
AAGCAGCTGACCCTGGGGAGGACCGTATAGCCCCAGGACATCNNCGTCCTCACGCCCTAC
AACGCGCAGGCCTNTGAAGATCATCAAGGCCCTTCGGCGAGAGGGCATCGCCGGGGTGGC
CGTGTCCTCCATCACCAAGAGCCAGGGGAGCGAGTGGCGCTATGTGCTGGTGAGCACCGT
CCCGCACCTGTGCCAAGAGCGACCTGNACCANCNGGCCACCAAGAGCTGGCTCAAGAAGT
TTCTGGGCTTCGTTGTGGACCCCAACCAAAGTGAACGTTGGCTTTCAACGCCGNCCCAAG
ANGGGCTCTGNCTGATCNGAGGACCACCTTCTTNTTGCGCTTGTTGCCCCCTTTTGGCCGT
AANCNTNCTGGACNTTTTGCGAGGNTTAAAAAAACCCTTTTTCCCTGGCCGGCCAGGTGCC

Table 1

CCTTNTTCAGGAAGGCCAATNTGCCTTTCTGAAAAGNCTTTTCACCTGCAAGNTGCCAGG ACTGGGANGGGAAAGTTNAGGGCCCCCC

Sequence 1037

Sequence 1038

Sequence 1039

Sequence 1041

Sequence 1042

CCCTTAGCGTGGTCGCGGCCGAGGTACCCTGCTTTGATTATTTCCGAATCCAGTGGGTAG
AGAAGGTAAAGGCAAGGGCTCACTGGATATTTTTAAATTGTAGGGATGTCCTTTGCTCTG
GGTCAATTTTAGGATCAAATATAAAAGCACCTATAGCTCAGAGTATCTTCTAACATAAAA
CTTCTGAGATACCAGAAATTTTCCAAAACATGGTATAAACAGTATGAAACACTGGGTAGA
TAAAAGCTTTCTCTAAATCTTAAAGTGCTCAAATATCATGACCTGATTTTTTAGTTTTAG
AAATCAGATATTTTTCTATTCCATATCTTAAACTTT

Sequence 1043

CCCTTAGCGTGGTCGCGGCCGAGGTACCCGTTTGTCCATGGCTATTCCAAATACCCCCAT GTTTATTTAAAATGTATATATAATCAGTTACATAAAAAGAGGTATGCTTAAATTCTCATG ACTCTATGGTTGGACCTCTGTGGTTGGAGCAGGCAATAGAAATGTCTGTAATTCATTTAA AAAAAAAGTGACTTTCCTACCTTTAGATAGTGAGGACAATCTGTTAACTCTTTGTGTTG ATAAAAGCAAACATTTCAGGGCACGGTGAAAGAAATCTCTACCATGTATAAGGTTATATA TATACCAGAAGCAGTGGAGTTAGGACCAAATTAAGATTTGA

Sequence 1044

CCCTTAGCGTGGTCGCGGCCGAGGTACATAATGTAATTGTTACATATAATTGTTGTATAC

PCT/US00/33312

Table 1

TGCCCGGGCGGCCGCTCNAAAGGG

Sequence 1045

CCCTTCGAGCGCCGCCCGGCCAGGTACTTTTCCTGGGTTGTGAATCTTGGAGGTTGCCC CCATAGATACTTTTGCTTAGTAAAATCTTTCTTTGAGGGTAGGGACTGGAGTATGGAACC TTTTCAGAGGAATGAGAGGGCTTGTGACGAAAGGGTAGAGGAGGGAATACCTCCCTGCA AAATCTTACACAACTAACTAATGTCATAAGGCCGAGGATGAGAAAGTAGCACTTAACTGT TTCATCCTCATCACACATAAAGCATTCC

Sequence 1046

CCCTTTCGAGCGGCCGCCCGGGCAGGTACAGCACTTTCAAAGTAGTGGAATATAAATCTT TCCATTTAACAGCAACATTCAAATATTTCCCATTCTGCTTATTATTCCTCTCTGAAGGTG ATACATAGAAATATAGGAGCAAACACAGCAATGCAGGCGCTCTATGATCTGGTTTGCTCA CATAGATCTTAAAAGGAGAAGAATGAGGGATTTGCCTACAACCCACAGCCAATCTATGTG GACACAAAGGGTGACTTCTTCCTTCTATTACGTTCCTTGAGGTAGAAATGGTAAACTAGC ATGACCTCGAATCATAATTTAATATCATTCTA

Sequence 1047

CCCTTTCGAGCGGCCGCCCGGGCAGGTACATTATTGGTAGTATCTCAGAATCCTGCTTAG CTTTTGAGATAAACCAAGTCATGATATTTTGGGTAATATGGCCATAGGTATCATGCAAGA TTGAACTGCCCAGTATTTGCCTTTTTCAATATTTACTTTGTAAGAACCTGACACTGTAGG TCCTCACCACACCAAAACCTGCAACATAAACTTCAATTTTGGGCAACTCATAGACCAAAA AAGCTAAACAAAACAAAAAGGAAAAAACCCTCTATATACAATCACCCTGCTTGTCTACAT TTAATTTGCTTCATTCAAAATAAGCA

Sequence 1048

CCCTTTCGAGCGGCCGCCCGGGCAGGTACACACTTTAAAAAGTGAATTNTAAGCTATGT GAATATCTCAATAAAAACATTTTTTAAATAAAAACAATTCCCAAAGGCCTGGAAATTCAG GAACATAATTCAAAATAATTTATGGATCAAAAAATAAATCATATAAAGATCTGAGAACTA CAATGTAAAAATATAGAAAAAAGTCATAACAATATTAGANAAAAATTTGAGCTGGATAAC AAAAATAGTACCTCNGCCNCGACCACNCTAAGGGCGAATTCCAGCACACTGGCNGN Sequence 1049

CCCTTTCGAGCGGCCGCCCGGGCAGGTACCTATAAACAAAGGCATCATAAATAGATATAA AGCCAGAAGAAAAGGGATCTAAAGTAGACAGAGAAGATAGGCTGACTCTCCAGTTGCAGA TTTTCATTATCAGCTCATCACCACCGAAACTCTCTGGTGATTTGCTATCCACATCCAT GGCGTTTGGTGGCCCTAAAGATTGTAACGGCCCCCATCCTCTTGGTTAAAATGGCAGGTG TGTTGACAAGAACTGTCTTAGGTACCTCG

Sequence 1050

CCCTTTCGAGCGGCCGCCCGGGCAGGTACCTCTCATCTCCAAATCAACTAGACTCTTATG TTAAGAATACTAACAAGAAAAATCCAAACCCCCAATAGAAAAATCCCCAACAACAACAT ATACCCTTAAACACAAGAATTGTATTATTCAATGAAAGCAATACAAGTAAACACAACAGT TACCTTGGCTATTTTTCAATGTACCTCGGCCGCGACCACGCTAAGGG

Sequence 1051

CCCTTTCGAGCGGCCGCCCGGGCAGGTACCCATCTCTTCCATTCTGGGAATCTGGGAAAC AAAGATGACATTTCAGCACATATTGGGTGAAATAAGTTGTTTAGTCCAGCACTTCTCAAT TTTTAGTGGATATGTGAATTGCCTATTAAAATGCAAATTTTAAATTAGTTAATCTGGGTT GGACCTGAGTCTGCGTTTCCAACAAGCTCCCAGGTGATGT Sequence 1052

CCCTTTCGAGCGGCCGCCCGGGCAGGTACGCGGGTATAGCTATATTTTATT TTTATGTAAAATTTCCAAAATGCTTAATATGGCAGTATAATAATTATAACTAGATTTACT TCAAAACATAGACATAAAGAAGATTACATGCCTGTAGAAGTTCATTGAATTAGGAATCAC ATGCTATTTATTTTAGCAGATATCTTCTTAATTAAATGTTTGACCCATGTGAAGTCATTT AACAGATCTGTTACGCATTATTCACATATGCAAAATAATCTATATGATCTGAATACCATT TCCATCTTTAAAATTACATATTCC

Sequence 1053

Sequence 1054

Sequence 1056

CCCTTTCGAGCGGCCGCCCGGGCAGGTACATTAACTCACTGACTTACTCTGGGTTGCTAT
TGTATTAAAATTCTGTATAGACATTACGTAGCCTCAGAGTTGAATTTGGACTGCCCTTAA
AATAAAAAATTCTTAAATCTTTAGTGTGGTGTCTATTAATTTTTATGATGATTTACAAGT
TGGAAATGATTACTTTGCAAGTCATAGTTTACTTTGAAGTTAATAAGAGTGATTACAGTA
AAGGAAAAATGCCATATATGGCATTGTTCTTAACAGCTTATGAAATTTGGAAAACGATAT
TTTAGAAAGCTTTCTCTTGNTGGCTGGAATGAAGTGAGACCCTGCT
Sequence 1057

CCCTTCGAGCGGCCGCCCGGGCAGGTACAGCTTGTTCAGGATATTTCTTCTATTTTTCCT
TTGAGTTCTTGTTCATATTCTAGTTAATTTCTAGTAGTTCTTAATGTATTTTAACCAATA
GACTTTTGTCTTCCTTCTGCTTATGTATTCCTCGTAAATGCTTTTTGTGACTTGTCTAAG
TATAAACAACTTTACTATTAGCTGTAAAATTTTCATTTTTAGTATGTCATCAATCTTTTT
TTGTGNTTTAGTATGATTAAATGGTTTTTCACTTGGAAAGATATTGAATAGTCTACTTCA
TTGATTTTTTTTAAAGTCATTTTCATTTTTT

Sequence 1058

Sequence 1059

Sequence 1060

CCCTTCGAGCGGCCGCCGGGCAGGTACAGTTACCAAAACCCATCCAACTAAAAATTTAA GCTTTTTGCATTTTAGTGGATGCAAATTGTGTCTTAGTAAGAAGAACATACAAAAACTAA GAAAGATAATGTTGAAGAAAATAACAAAGCTTAAGGACTTAAACTATTACCATCAAGACA TGTATAACTACAGTAATTTTAAAAACTGTTTTCTTGCATAAGTATAGAGAAATGTACCTC GGCCGCGACCACGCTAAGGG

Sequence 1061

CCCTTAGCGTGGTCGCGGCCCGAGGTACTTACGCTTTATGATCTTGAATATTTTCAGNGT NTAAGGAATCTCTTCCTTCTTTGATCTCCACTGCATGAAGAACTCTGTTGCAGGTGTTAA CAAGGAAGTTTTGAAATACAAAGCCAGAACCTGCCCCCCAAAGATCTGACAGTAGTANAA GGAGATCCATTTTGAAGAAGGTATAATGGCAACC

Sequence 1062

Sequence 1063

Sequence 1064

Sequence 1065

CCCTTAGCGTGGTCGCGGCCGAGGTACATTGAAACAATATAGTAGTCTTCCCCTTTACAA
AGCTGAATTAAAGTAAAAGTGTGTGTTGGGAATAATAGGGGAATGTGGATTGTAGCTGTT
TAATAAAGATTTAGATACATATAAAATTGCTTAAGGCCAGGCGCTGTGGCTTACGCCTAT
AATCCCAGCACTTTGGGAGGCTGANGTGGGTGGATCACCTGAGATCAGGAGTTCGAGACC
ACCCTGTTCAACATGGTGAAACCCCATCTGTACCTGCCCGGCGGCCGCTCGAAAGG
Sequence 1066

Sequence 1067

CCCTTAGCGGCCGCCCGGGCAGGTACCCTCCGTGACTTTTCAGGGTCTCCTGGTTGAATG
AATTTGCANAAGGATTAAAATGTGTGTTCTTATTTGTGCTTTGTATTCTCCCATAANTAG
TGTGTTGGAGGCTATTAGAATAGCTGAGAGGGTAAAACATAAACACATACGTANGAGCCT

GACATAAACACATAGGTAGGAGCCTGCCATAAGCACCGTAGGTAAGAACTAAAAGGGTGT GTTTCCATTTCANGNGGTCCAGNCCTTCCTTNCATACTCTNAGATGACAAAAACACAAAG TTGCTGGAGCTCACACAACTAATGACTAAANCCAGAAAGTTTGGACATGGAGAAACATTT TT

Sequence 1068

CCCTTAGCGTGGTCGCGGCCCGAGGTACTATATTAGTGTAGCAATTTTCCAAAAGCCATT CATCTTAGAGGGCTAAATGATTTTACCTTATCAATTCCTCCTGTGAAAAAATATCTCTAA AGAGGTTTTCTGCTGGAAAATATTGTTGCTGCACATTGATATGCCAACAAAAGCTAAGC AGGGAAGTCAGGCCAAGAAATATCTNCCTGCAAGAGAAGGCATCGCACATGTATCTCTCC ATGCTATTTAAAATTTGCATTCTGCAACATAGAAGGGATAGGCCATGCTGCAGAAGCCAG GTCCAGGAAAACTGCTTTCTTTGGCCNTTACACATCCTTTTTTGGAGAAGATGCTGGTGAA AGCAGCAACTACCATCTGCTCCTGTTGACTTAAGTGCAACAGGTGGAAGGGANGAAGGA AGGGCATCGCAAACATCATTCTATTATCTCAACCTTGCTTTTCTCGG

CCCTTAGCGTGGTCGCGGCCGAGGTACCCTGCTTTGATTATTTCCGAATCCAGTGGGTAG
AGAAGGTAAAGGCAAGGGCTCACTGGATATTTTAAATTGTAGGGATGTCCTTTGCTCTG
GGTCAATTTTAGGATCAAATATAAAAGCACCTATAGCTCAGAGTATCTTCTAACATAAAA
CTTCTGAGATACCAGAAATTTTCCAAAACATGGTATAAACAGTATGAAACACTGGGTAGA
TAAAAGCTTTCTCTAAATCTTAAAGTGCTCAAATATCATGACCTGATTTTTTAGTTTTAG
AAATCAGATATTTTTCTATTCCATATCTTAAACTTTCATGTTAAATTCTAGTTCTGACAA
TGTAGGGTTCTATTTTTTCAGGTGATTGTTGGGAGCGTATAGAAGCATATATAAATATG
GAATATGTGTTTCTTTTTTCCCCTTCTGAAAGAAAGTCAAGCCTCTAATCAAATAGATTG
ATGCTTCAGAAACTTAACAGAATATTATCTGCAATTTGGCATAAATGCATTTTTCTTGGG
GAAGTTTCCATGGTCAAAATTATTAGTCATTGCAAAAACAGAAAAGTTTGACACCCTGGAAA
TGCAGACCCTTTTGCTT

Sequence 1070

CCCTTTGAGCGGCCGCCCGGGCAGGTACATTATATTAATGAAATTTATCTAGTCCTTGCA
AACTTGTGCCTATTGATTTTCATTAGTGTAAACTAAAGAGAGAAACTTCACACTGACATT
TATAATTGTAAGAACTAAGAACCAACCATCAGCTTTTCTATGCCAATCCATGCCCTTCAG
GAAGTTCTTGAGGCCTTGAGGTTGCTAGTTTAGTAAATTGCTTACTGGGACATTAAAGCA
GCTACATTTTTGGAAAGANGGAGAATTAAGTTTTTGGTG
Sequence 1071

Sequence 1073

Table 1

Sequence 1074

CCCTTAGCGTGGTCGCGGCCGAGGTACTGGGTCACTCTGCCCCAGCTCTCCAAAGGCATC
AAGATCCGACTGCTAGGAGCCCCGGCTTCTTCCCTGACCTGCCCGTCTCCTACACCCTCT
GGTCCTGCTCCACACTGGTCTAATAACTGGTGTTCCACATTCCTCTAACGTGCACAACAC
AGTCCTGCCCCCGTGCTTTTCACCTCCTGTCCATTCCTCTTATAACG

Sequence 1075

GATATCTGCAGAATTCGCCCTTCGAGCGGCCGCCCGGGCAGGTACTCTTCAAAGAGGATA
AACTTAAAGAAAATGACTAGATACACATCAAATTAAGCTGCTGAAAACCAAAAACAAAGA
AAAAATTTTTGAAAGCAGCTAGAAAAAAATTACACACCACACAGAGGGGAATAAGGTTTA
CATTACAAAGATTTTTCACCAGAAATCAGAGAGAGTGAAAAGACAGCTAAATGGCATCATT
GAGGTGCTCAAGGAAGCAAGCATCTACTCGGAATTATATATCCACCTAAAATATCCTTTA
GGAATGAAAGTAAAATAAATACATTCTCAAAGAAAAACAAAGAGAAATGTATCCCCAGCAG
ACTGATCTGCTAGAAAAGCTAAGGTCAACATTAGGCTGAAAGGAAATGCTGCATCTTCAG
GAATGAAGAAAGAAAGAGCAATAGAAACAATAAATATATAGGAAAACACAAAATAC

Sequence 1076

Sequence 1077

Sequence 1078

CCCTTAGCGTGGTCGCGGCCCGAGGTACAGCTCACATTCATGGGGAGAAAATCAGGGCC TGTCTTTAGATAGGAGATGTATCAAAGAATTTGTGGACATATTTTAAAATCACAGCACTA CTCTTGATGTACCTGCCCGGGCGGCCCGCTCGAAAGGG

Sequence 1080

CCCTTAGCGTGGTCGCGGCCGAGGTACACCGATGTGGCTGACATTTGGCTGGAGTCTGCT
AAGATGTTTTCTTATNCTGGATGGACGCAGACCTGTAACACCCTGTTTTTCATCTTCTCC
ACCATATTTTTCATCAGCCGCCTCATTGTTTTTCCTTTCTGGATTTTATATGGCACGCTG
ATCTTGCCTATGTATCACCTCGAGCCTTTCTTTTCATACATCTTCCTCAACCTACAGCTC
ATGATCTTGCANGTCCTTCACCTTTACTGGGGTTATTACATCTTGAAGATGCTCAACAAG
ATGTATATTCATGAAGAGCATTCCAGGATGTGAANGAGTGATGACCAAGGATTATGAAAA
GGAAGAGGAAGAAGGANNAAGAAAGAAG

Sequence 1082

Sequence 1083

Sequence 1084

Sequence 1085

CGGCCGCCAGTGTGATGGGATATCTGCAGAATTCGCCCTTAGCGTGGTCGCGGCCGAGG
TACCACCTAACAAATTGGAGGAAATGAAAAGACGAATCAACAACATTTTGGAGAAAAAAAT
TTATTCTACTTCTAGAATTTCATTACTACAAGTGCTTAGTTCTTGGTTTGGTAGATGAAG
TGAAATCAAAATTGGATATTTTGGAACATTAAATATGGGAGCAGAAATCTGTGGAATTAT
TGCTGGAAGACTGGCATAAATTTATTGAAGAAAAAGAATTCCTAGCTCGACTTGATACTT
CTTTTCAAAAATGTGGAGAAATTTATAAGAATTTGGCTGGAGAATGTCAGAATATTAATA
AACAGTATATGATGGTGAAATCTGATGTTTGTATGTATAGAAAAAATATATAATGTGA
AGTCCACTCTACAAAAAGTGCTGGCATGTTGGGCTACTTATGTGGAAAACCTTCGCTTAC
TAAGGGCTTGCTTTGAGGAGACCAAGAAAGGAAGAAATTAAAGAGGTACCTGNCCCGGGC
GGGNCCGNTCTAAAAGGGC

Sequence 1086

Sequence 1087

Table 1

Sequence 1088

CCCTTNCNAGCGGCCGCCCGGGCAGGTACATCCTTTTGCATGCTCAAGAGCCCATTCTTT
TCATCATTCGGAAGCAACAGCGGCAGTCCCCTGCCCAAGTTATCCCACTAGCTGATTGCT
ATATCATTGCTGGAGTGATCTATCAGGCACCAGACTTGGGATCAAGTTATAAACTCTAGA
GTGGTAAGTGTCTTCACATTCTTTAAGCACTAAAGAAAACTTTTAATTAGCTACCTTGCT
TCCAGTAATCAAACTAGAGCTCCTCTGCCTTGTGTAAGTTGCTATAAAGTATTGACTATT
AGAATGTCTTGAACTTTGGTTACTGTGAGCCAAGTCGGTGCTCAAAGTATTTCATAGT
CTCAATTATATAGTAATTTAAGTTCTGAAAAAATAGGTTCTGGCTTTGCTATGGAAAATATT
TTGNGAGTATTTACTTTGGAA

Sequence 1089

Sequence 1090

Sequence 1091

CCCTTAGCGTGGTCGCGGCCGAGGTACCTTTGCAGTTTTCTAAGGGCTCTTAGTGCTTTT
AACTAGAAAGGGGTTTTTCGTTTGTTTGTTTTAAAAGGGTCCTTAGTGCCTCTTAC
TCCCTTCCTGTAAAATCCTGTGTAAAATGACAAAAGTGCACAATTGATCATTGTAAGTTC
TAGTACCTGCCGGGCGGCCGCTCGAAAGGG

Sequence 1092

Sequence 1093

CCCTTAGCGTGGTCGCGGCCGAGGTACCAGGTCACCTGTATCTTGATCACCAGAGAGCAC
ACCAGCCTGGACAGCACCATACGCTACAGCTTCATCTGGGTTTATGCCACGGGATGG
TTCCTTGCCATTGAAGAACTCTTTAACCAGTTGCTGAATCTTTGGAATTCGAGTCGAGCC
ACCAACAAGAACAATTTCATCAACCCGCGTACATGCTAAGACTTCACCAGTCAAAGCGAA
CTACTATACTCAATTGATCCAATAACTTGACCAACGGAACAAGTTACCCTAGGGATAACA
GCGCAATCCTATTCTAGAGTCC

Sequence 1094

CCTTTCGAGCGGCCGCCCGGGCAGGTACATGCCAAAGACTTCGCCATAACTTTTCAAGT
TAATTACACCTGCTACTGTTTCACTTAGTGGCACTTTGCTTAACCTGTTATACACAGAAG
GGGTTGAGAAGACAAAACACTGTTAACTTCATTATACCTTTGACAAAGTAATATTATGTG
ACATGATGTTTTTCCCCAAAATATTAGAGCTGCAGATTTAGCTGATTCAATTTATGGGA
CAATTTGTTATGTGATCTAACAATTTGGCATATAATCTAGAAAGCAGCTTTATGATCAAA
AATTGATTTTATATATATATACATATAAAT

Sequence 1095

Table 1

Sequence 1097

Sequence 1098

Sequence 1099

CCCTTTCGAGCGGCCGCCCGGGCAGGTACGCGGGGGAGGTCTCCATTCAGTAGGTGGCCC GGGATGAAGGCCGTGTTGGGGCTAAACCACACTCTGGAATTCTGTCAGCAAATTCCTCGC TGTGTGAACTTGAGCAAGCCATTCACCTTTCTTAAGCCATTTTCTTGATATTTCACAGAG CCTCACCAAGTATTCAACGAGAACATGTAAGTGAAATGCTTCACAAAATGCCTGGTAAAT AATAGATGCTTAGAAAATGGTAGAGAGAGAGAAAAGAGCAGTCTCTGCCCTTTAATGTACCT CGGCCGCGACCACGCTAAG

Sequence 1100

GGGGNCCCGGGGAAAAATNATTTTGGGGGGGGGGGGNCCCCCCCCCTTTNCCTTTNANNA NNTTAAAGGGCCCCNNTTGGGNCCCTTTCCCGGGAANGGCCCGGGGGGCCCCCCGGCC C

CCCAGGTTNGGTTTGGGANTGGGGGNANTTANTTTCTTTGGCCAAGGAAAATTTTCCCGCCCCCTTTTTTTCCGGAAGGCCGGGGGCCCCGGCCCCCG

Sequence 1101

CCCTTAGCGTGGTCGCGGCCCGAGGTACTTGTTGGCTAGGAGCTGAGCTTATCACAACAA
ACAACAGCATTACAGGAATTGTCTTATATGTGGTCAGTTGTAAAGCTGATAAAAATTATT
CTGTAAATCTTGAAAACCTAAAAAATTTACGCAAGAAAAGACATCACTTGTCTACTGTAA
CATCCAAAGGCTTTGCCCAGTATGAGCTCTTTAAGTCCTCTGCCTTGGATGATACAATCA
CAGCATCACAAACTGCGATCGCTTTGGATATTTTCCTGGAGTCCTGTGGATGAGATTCTTC
AAATCCCTCCACTCTCTTCAACTGCAACTCTGAATATTAAAGTGGAATCAGGAGAGCCCA
GAGGTCCTTTGAATCATCTCTACAGAGAACTGAAATTTCTTCTTGTTTTGGCTGATGGTT
TGAGGACTGGTGTCACTGAATGGCTCGAGCCCCTGGAAGCCAAAATCTGCTGTTGAACTT
GTCAGGAATTTCTGAATGACTTAAATAAGCTGGATGGGATTTGGTGATTCT

CCCTTAGCGTGGTCGCGGCCGAGGTACTTTGTTAGCGTCTGCGTGTGTATGGAAAGTTGA
CAAAAAATGGCATGAAAAGATCATGATTGGATTTTCTTTTAAACCTGCCCTTCTGTAAAA
AATAGTTTATATTTTTAAATTAGTAGGTATGTGTGGCTTCCTTTTTTCCTAACATTCC

PCT/US00/33312

Table 1

Sequence 1104

CCCTTTCGAGCGGNCGNCCGGGCAGGTCACTATAGGGCTCGAGCGGCCGCCCGGGCAGG

Т

Sequence-1105

Sequence 1106

CCCAATTGGGCCTTTNGATGCTGCTCGAGCGGCGCAGTGTGATGGATTCTGCAGAATTCG CCCTTAGCGTGGTCGNNTTNGAGGTACNACCTGCATGGTGTTTATGCACACAGAGATTTG AGAACCATTGTTCTGAATGCTGCTTCCATTTGACAAAGTGCGTGATAATTTTTGAAAAGA GAAGCAAACAATGGCGTCTCTTTTTATGTTCAAGCTTATAATGAAANTCTGTTTGTTGAC TTATTAGGACTTTGAATTATTTCTTTATTAACCCTCTGAGTTTTTGNATGTATTATTATT AA

Sequence 1107

GATATCTGCAGNNNTTCGCCCTTTCGAGCGGTCGNCCGGGCAGNTTCNTGAGATGTTACA CTAGTATTTTGAAAAAGTATAAAAATGTGGCCGGNCGTGGTGACACATGCCTGTAATCTC AGCCACTTGGGGAGGCCAAGGGCANGGAGAATCGCTTGGAACCTGGGAGGCGGAGGTT

G

Sequence 1108

Sequence 1109

Table 1

CCCTTAGCGTGGTCGCGGCCGAGGTACTGGGATTACAGGCGTGAGCCACCGCACCCAGCC
AAAACTGAATGCTTTTAAGAGCACCCAAGTCAACTCTTGAGTGCTTTGCTGCTTATAAAT
TTATTCCACCAGATACCCTANATCATCTCTCTCAAGTTCGAAGTTCCACAGATCTCTAGA
GCAGGGGCAGAATGCTCCCAGTCTCTTTGCTAAAGCATAGCAAAAATCACCTTTGCTGCT
CCAGTTCCCAATAAGTTCCTCATCTGTTGGAGACCACCTCAACCTGGACTTCATTGCC
ATATCAAGATCGGCATTTTGGCAAAGCCATTCAGCAAGTCTCTAGGAAGTTGCAAACTTT
CCCACATTTTCCTGTCTTCTTCTGCACCCTTCAAACTATTTCAACCTCTTCCTGGTACCT
AAGTTCCAAAGGTACTCCACATTTTCAGGTATGGTTACAGGAAGCAACCCGNTTNTACCG
GTACCTGCCCNGGGCGGCGNTCGAAGGGCGAATTCCAACACACTGGGCGGCGTTACTA

Sequence 1111

Sequence 1110

Sequence 1112

GCGCTNGTGTTTCAATCCCTTACGCNCCGCAGCCNTGNTGATGGTCTAACCAAATTCTAG
TNCCTGCTACAATGGGATGGCCTGGGGGATTAATGGAACTTTGCCGGGACCAACTTATGA
TAAGTGGGAAAGCACTTTAGGGCTGATCCCATATANGTGGTGAACACTGCACTTNTGGCC
AAATGGACACGGAGGATAANCACCATNTGACACTGGGGGTGGTNCAGTTGGAGCTCTGGA
AGGAAAAGNCTTCCTGGGGTGGATCTCTAACAATATTAATACCTCNGCCGCACCCGCTAA
GGCGAATTCCAGCACACTTGCCGGCCGTTACTAGTGGATCGAGCTCGGTACCAAGCTTGG

Sequence 1113

Sequence 1114

CCCTTAGCGTGGTCGCGGCCGAGGTACCACANGGACCCAAGGACCTCTAGCTGTTTTGG TGAGGCAGGTCTTTGTCAATTTAAGTAATCCTGTCAGATGGTGTACCAATCTTGTAACTC ACGACAAAGCACTGTTGCTGAGATACTGTGATTTATTTTCCTTAATGGGCAGTTTTTTTA TATATATACGTTCCATTTTCAGACAGGTGGTGCTTTGAGTTGAATTTGCAAGTTCAAGTG AAACATGGATCTCTTTTTTATTTAACTCCCTTTTCTTCTNCTAAGGTGCTTAATTTCCAT GCTTGACATCGTACCTGCCCGGGCGGCCGNTCGAAAGGGCGAA

Table 1

Sequence 1115

GTACAGAAGGGTTTCACCATGTTCACCACACTGGTCTCAAACTCCTGGTCTCAAGTGATC
CATCTGCCTCAGCCTCCCAAAGCACTAGGATTACAGACTTGAGCCACCGCACCCTGTCCC
ATCACTTTATATTTTCAAGAAGGTGGTGAGGGTGTTTGGTGCCTGGGGTCTCTAGCTGA
AGAAAAGGGAAATTTTTCTATCTCTGGTAATGTCTTTATGGATATAAACCTCAGTTAACT
GGAATAGCTATGGAATGTATGCTTCTGGTTAACTAAAAATTAACCAGTAAACACTCTGTA
NTAACCATTACAGAAAAATACTTCTGCTTTAAAAAAAGTACCTGCCCNGGCGGGCCGCTCGA
AAAGGG

Sequence 1116

TNTCTGCANAATTCGCCCTTAGCGTGGTCGCGGCCCGANGTACCATCCCAAGGACACAAG
TTTCCAGGCAGCAGCCTNCAAGAATTTTGTTAGAGATGTCCCATCACTTATGGCCTACAC
TGTTACATCTGGACTCTGGATTGCAAGTGTAAGGAAGAAAGTGAAAATGAAAGAGAAAGT
GGAACAAATATTGGCAACAGAGCCCCCAGAGGACAGTTGTCCCTTTTCCAACAAGTTAAG
TGGAAAATGCTGTTGCCATGGGAGTACCTGCCCGGGCGGCCGCTCGAAAGGG
Sequence 1117

Sequence 1118

Sequence 1119

Sequence 1120

Table 1

CTTTTGGGGGGGCTGGG

Sequence 1121

Sequence 1122

Sequence 1123

Sequence 1124

CCCTTTCGANCGCCGCCCGGGCAGGACGCGGGTAGGGCAACTTGGATGTATGCTTAGGG
TTCGCAAAAAGTAAACAAAAATACAAGGGAAAAAATTATTGACAATGAACTGCTTTGGT
AGTGATTTGTGTTTTTTCTTGATTAGTAACCAACAGCACAGCCACCAAGAAATT
ATGCACATGTGGGACCACGTCAAGCTGAAGCGTTTGTGCCCAACAAAGGAAACAATAAAG
AAAATAAAAAGGCACACTAAAAATTACAAGTTTGGGATAAGGGATTATTTTTGAAAAGGT
ACCTCGGCCGCGACCACGCTAAGGG

Sequence 1125

Sequence 1126

Sequence 1127

TTGGCTCAGTGCATGTCACCAAAAATTCTCCAGGGATTTCATAGTCTCGGTGGTGTGGCT GGCCCAGGACTATCCATGCAGGGAGGCCTGCACCTNTGACAGTCGGCTGCANCTGGGGGT GCCCATCTTNTGTGCTCTGTGGTACTNCTACACACATAAATTCAGGAAATGACTAGATGA GCCTGAGTTGGCTTTANTATTAATGTGCAAATACAGTTTTCTATACCAACAAACCC Sequence 1128

CCCTTTCNNTNNTGCCGCCCGGGCAGGTACTATCGATTGGGTCGGGGGTGATCTATTATC
ATTGAGTAGGAAACTTACTAGGNTAAATAGAAAGTATATANAATGTATTTGGTTATAGA
TATGTGAAGGAAAAGGCATANTTATATGGTCATCCATGCTGGGGAATATTTNGNAGNTNT
NTTTTGTTGAGAGAAAATNGNNCATNTTGGATCAATAGNATTAGACAAATATCTTGNGCAT
CAAGAGACCTGGAAACATG

Sequence 1129

Sequence 1131

Sequence 1132

GATATCTGCAGAATTCGCCCTTTCGAGCGGCCGCCCGGGCAGGTACATCACATGGTGAAA
GCAGGAGCAAGAGGGATAGAGGTGCCATACACTTTTAAACAATCCGATCTCACAAGAGCT
CACTCACTATTGCAAAGATAACTCCAAGCCGTGAGTGATTGGCTCCCATGACCTGAACAC
CTCCCACCAGGTCCTACCTTCAGCATTGGGGGTGACAAAGCAACATGAGATTTGGGCAGG
GATAAATATCCAAATTATATCATTCTGCTCCTGGCCTCTCCCAAATCTCATGTCTTCTCA
CATTGCAAAATATAATTATGCCTTCCTAACAGTCCCCAAAAGCTTAACTCATTCCGACT
TTAACTCAAAAATTCAAAGTTGGCCAGATGCAGTGGCTCACACCTATAATCCCAGCATTT
TGG

Sequence 1133

GATATCTGCAGAATTCGCCCTTAGCGTGGTCGCGGCCCGAGGTACTGAAACTACAGGTGT
GAGCCACCATGCCTGGCTTAAACATTTGTTTTTAATTAGCCAGGCTTGGTGGCACACATC
TGTAGTCCCACCTACTCAGGAAGCTGAGGTGAGAGGATCACTTGAGCCCAGAAGTTCAAA
GGGGCAGTGATCACTCCATTGCACTCCAGCCTGGGTAACAGAGTGAGACCCTGTCTCGCC
AAAAGAAAGAAGAGGTTAAGGAGGAGAAGACTCTAACCAAAAGAAGTAACTGATATTATTGA
AAATTATTTGATAGCAATCGCAATTATTTTGGATAACTATTTTTACATATTGTAAGCCAA
CCAAATAGGGTCTTAAAAAGTTTCAAGACCAAATGATTCATGTTCTCTACTTCAGCCTAA
AAAAAAGTTAAAGAATTCTTCAATTACCAAAAGAACAGTTATTCTATANTTACAAAAAGA
CTTGAAACTTTTCACCTGAATGCATCTCTTTGTTACAAAACCTTTAAAGGAGGTAGGGGG
GAACTTCATTGATTCATCAATGCTGNCTGGTTTTTTAAACCCA

Sequence 1134

Table 1

AAAAAGTCAGTATGTAATATAGTTGCTCTTTTATTTAAAAAATTTTAAGATTGATATTTG CTTACTATCATGTTACGAGGCTTTATTTATATGTGTATTACAAATATATTTGTTAACTAC TAGCAAATATTTTATGTAATAACTTCGCTATTTTATTAAAATCCTGTTTTTAAAATTCTG AAATGTCATTTTAAGTATAGGAGACAGGTGAAATTGTTCAAGGTTACTACTAAACCAGGG AATAAGGGAAGCTTAGATTCTTGGNCTTTTTTCAAAAAAAGAAAAATTTTA

Sequence 1135
CATGCTCGAGCGGCCCGCCAGTGTGATGGGATATCTGCAGAATTCGCCCTTAGCGTGGTC
GCGCCCGAGGTACAGAGGAAATGGGACTTTGCAATTATATTTTTCTAAGTGGTCTGAAC
TTGGTCTCACTACCCACATCACCTGGAATGGTTACCAGGCCTCAAAGGACTGCCCCACGG
GCTAAACAGCTGATCCGCTCTCTGAAGCCAGACAGTCTTATCTGGGAGGTCCTTTACAGA
TGCCACTGTTGAGGGCCCGAAGCTGAANAAAAGTGACTCCATCCTCAAGTAGTCCTTATC
TTCCTTTTGAACCAAGCCTTGCTGTTCTNGGGCCGCATTTGTGAATTTGGNCTGGAAGTN
NNNGGTTCTTTAAAAANAAAGNGATGGGGTCCTTTTAAGGTAATTGAAATAAGGTGTTTG
ATGGTGTTAATTGGGTGATGATGTACCTNGNGGCNGNCTGGATAAAAGC

Sequence 1136

CCCTTTCGAGCGGCCCGCCCGGGCAGGTACAGATGAAGATGTGTTAAATATCTCAGCAGA
GGAGTGTATTAGATAAATGGAATTATGATATATGATATACAAACTTTTTTCTATTTAA
AAATAATTAATGGATCAACTTTAAAATTGTTAGTTGCCAGTGATCTTTTTTGGAAAACA
AAAATGGGGCATTTGTTGATTTATTTTTTCCGTCTCTAATTAGTTACCTCAGTTTGAT
TGAAGCCAGTGAAGTTGTGCTTTTCCTCTACTTCTACTTCCTCCCCGACCTTTTTCTG
CCCAGTGTAGGGTGTATTCTTAAATTCAGACAGGGGGAGGATTCTTTCACATATNACTCA
GCTACCTCCCAATCTGGGGGAGTTTTTCTTACAACTTGATACCAGATCCATTAATTTTAC
ATTCCTGAATAAAGGCCTAGTA

Sequence 1137

CCCTTTCGAGCGGCCGCCCGGGCAGGTACAACCTTGGCTCACCGCAACCTCCGCCTCCCG
GGTTGAAGCGATTCTCCTGTCTCAGCCTCCCAGTAGCTGGGATTACAGGTGTGCACCAC
CACGTCCTGCTAATTTTTGTGTTTTTAGTAGAGATGGAGTTCACCATGTTGGCAAGACTG
GTCTTGAACTCCTGACCTCAAGTGATCCATCCGCCTTGGCCTCTCAAAGTGCTGGGATTA
CAGGCATGAGCCACCGCACCTGGCCCTGTCAGGGTTTTCTTAACATTAGCAACTGCATTT
TGATTCTGACAACTGTCACAACATTTTGGGCCAGGTAACTTTTGGTGGCTTGTGCCCTGT
AAGATTTTAGCAGCATCCCCGGCTTCTACCCACTAGATGTCAATAACATCC
Sequence 1138

Sequence 1139

Sequence 1140

Table 1

ACAGAAAATGATTGAGTGACTCTTCTCAAATCTCCTTCAGGATGGTATGTGACTAGTATC
ATTCTAGATGCANAGGGGGAGAAGTTAATTTATTACAGTGGTAACCTTTAGAAGTGGTCN
CTTAAGANTGTGGGCCCTGAACCATCTGGGGAACTTGTAGCCCAGCCNGTTTCTGGGGCC
CTTATCTTAGACCTACAAAAAGAAACTTTGGGGGTTGGGG

Sequence 1141

Sequence 1142

CCCTTTCGAGCGGCCGCCCGGGCAGGTACTATTAGCAACTGTGATGATGATGATGTGAAA TCTTATTTTCATATCTTGGGTTTTCTTACAGTGAAATATTTGTTGTGTTATTTTCTTTGT AAAAATAAACCATGTTTGCATCTTGGTCTTCTTTCCATTTGGATTCAAAAGTTNTATAGT GATTCCTCCTAGTAAAATTGCATTTTCTCCCTAGGAGTACCTCGGCCGCGACCACGCTAA GGG

Sequence 1143

CCCTTTCGAGCGGCCGCCCGGGCAGGTACCTACACACATATATGCATATATGGTATAATG
TATCAATATTTACAGAGACCATAGTAAACACAGCACAAAACCAGGCATTAAGAGATGCAT
GGGAAATAGCATTTAAATGGTAAATATGGTAAAGATTGTTTTATGGTTTTTGGGTTTTT
TTTTTTAATGATCATATTTTTAATGTTACTTTAAAATAGATTAGTGGAATGTGATTCAAT

Sequence 1144

CCCTTTCGAGCGGCCGCCCGGGCAGGTACTATAAGTAGNTGGTTTGTATGANATGGTTAA
AAAGGCCAAAGATAAAAGGTTTCTTTTTTTTCCTTTTTTTGCTATGAAGTTGCTGTTTATT
TTTTTNGGCCTGTTTGATGTATGTGTGAAACAATGTTGCCAACAATAAACAGGAATTTTA
TTTTGCTG

Sequence 1145

Sequence 1146

Sequence 1147

Table 1

TCCAGAACCAGNNTTNCAGACTTTNTATGATAANCTAAATGTGCCANTCCTCGGCCNNTG ACCACNCTAAGGGG

Sequence 1148

CCCTTAGCGGCCGCCCGGGCAGGTACTATTGAACCAACAGGATATCTTTTTATTATTTG
CATGAGTTAATCCTACAAACAAAATTAAATACCTCTTTTATAAAACATCTTTTCCAGTGT
TCTAATTGATGGAGATGCGGATCACTCATCTATAAAAAAATGACTTACAGCTTCAGCTTAA
TCAGTTGCTATAATGTGAAAACAGGAATGTGTATTTTTTTCAACTAGGTAAAAGGTGCAT
ATAATTTGAATTGTTAAATGTTTTATTAATGAACAAAGTAAACCTTTTAGTAATTTTTAA
ATTACTGGTCTTAGGTGTTTGAAACAAGGTAAAAGTATACATTCCAGTTTTGCCCCAAAAG
TCACTTAAAATATCTACAAATTATTTAATCTGTGTGTGGTAACACCATTATTGCTCCAAT
TTCTGGAAAGAGTCTATTTTCAAAGTTTAAAAAAAGAGGAAAAACAGCAAAGTGGCTAACC
TTTGCAGTGGAAAGAAAAAGTGTCCTTCATGGGTTACACTTTCATATTTTTATGCAGCAT
TAAGTTATCTACCGTTATGGGGGAACTTGGGGTTT

Sequence 1149

CCCTTAGCGTGGTCGCGGCCGAGGTACCATATTGTTCTTNTTACANNTNTTACTGTCTCA
GNTATAATTTTGCAATGGCGGTTTCNCAACTNGCCTGNCCNNACCCNNNTGTNTCATAAN
TAATCTACGTAAACAAGTTAAAATAGGTAAATGNAATGTGATNAATACTTGNGGACAACC
TGGTCATAATTTANAATCTCAAGGCTATATTAAATAATACATATTTCATTATTNGGGTAT
TLTCCAATANAAATGTATTGGAGGAAAAGCTTTCCCANAAAAAAGNGTAACCTTTTTAAN
AAGGNGAATNANNNTTTGTCTAATTCAAAAGCTTATTTAAAGGTTATGTGTAAAACACGG
TNAAAGAACCNTNAAATAAAGAAAGATNTAANATAAAACGTTACCAAAAATAAAGTG
Sequence 1150

Sequence 1151

Sequence 1152

CCCTTAGCGTGGTCGCGGCCGAGGTACTACATAGAAAGGGCTTGGAAGTCTGATTCAGGA AAGGAAATCAGGAAAGAACAAAGGAAATGAAGGAAGAATAAAAAAGAAGAAGAAGTCATTG

Table 1

AAAAAGTATGAAAAAATATGAAACAGATAACAAGAAAGTAGAGGAGATTCCAAAAAATAC AACCCAGGTTTTCTGCCCTCATTCTATAGAGTCTTGAGAATTGTAGGGTGTAAGAAATAA AGAATCAAGTCTGAGAGATCCCTTTTGCTTCTTTCTTGTCTCACTGATCTGGAACCCAGG TTGCCAGCTGGCTATTCACAGGCCCCGCGTACCTGCCCGGGCGCCGCTCGAAAGGG Sequence 1154

Sequence 1155

Sequence 1156

Sequence 1157

CGGAANCANGGCATAGCNGNNCCTGGGGGAAAANGGNAN

Sequence 1159

Sequence 1160

TATTAATAGCCTACTGTTGACCGGAAGCCTTACAAACAGTTAATACACATTTTGTATGTT GNATGTATTATATAATGTACCTGCCGGGCGGCCGCTCAAAGGGCGA Sequence 1161

Sequence 1162

CCCTTAGCGTGGTCGCGGCCGAGGTACCAACCCTATTTTACAGATGGGAAAACTGAGGCT CAGAGAGGTTAAATCACTTACACAAAGCCACACAATTTTGAGTGGAGAGCTGGAATGTGA ATCCAGGCAGTCTGACCCTGCAGCTTATGTGCTTAACGATACTGCCTCTCATGTGGGCAA AGGATGGCCCAGGAGAAAGGCAGGCCCAGATTCCAAATCTGGCTTGACCGTCTAAGAGGC TGAGTCTTAACCTCTCTGAGCCTTTGCTGTTTCATCTGTAAAGTGGTCCTCCTGACAGCT GCCTCCTAGGGTTGTTTTGAGGATAAAGTGAAGTAATGGAGGGCCCTTGGGATATGGTAC CTGCCCGGGCGCCGCTCAAAGGGCNAATTC

Sequence 1163

CCCTTAGCGTGGTCGCGGCCGAGGTACCTTTTTCACCCTCTGAAATTACTAAGCAGGCTG TGGGGTGGTGCTCTGAAACTAGGTAGAAGTCCTCACCCCCCAACAAACCTTTACCAGTGG TTTTAGCATGCAGAAGATTCTGGCCTGAACCAGTTACTACTACAGAGGCTGCAAAATGAT GATTTTTCATTCATTCTTTNGTAAATACCCGGTATTTTTCACAGGATGAATGTACCTGC CCGGGCGGCCGCTCGAAAGGGCGAATTCCA

Sequence 1164

Sequence 1166

CCCTTAGCGTGGTCGCGGCCGAGGTACGCGGGCAGTGGTTTTGCTCTATACCACTGAAAA
GCACTATAACATAATTGTTGNCCATGATACTGAAGCTTTTCCCCTCACTTNTAGGTTGTT
TACATTCAGAGCTCTATCAATAAGANGAATACATATTACAGTGAATTCGACAACCGCACA
AGTNGGCAGTNGGTATCCCCAACCTAATTTATCTTGGTAAATTCACCCTGTTTCCTAGTG
CTGNTGGATAAAAGAGTGTTTACTTTTTATTGCTNTTAGACAGAGTAGNCTANATAANTT
TTCAATTTATCAACATANCCTAGACTTCTGTAAGTGGAATGNTCATTAGTAACTCATCTT
TTTGTTGNTATAATTGGAAAACAGAAACGAGGCTTATTGCTATTGCAGAAATNCNAAACT
GGCAAAAGGCCNAGTATTTNTGGTATTCCATTAATATAACCAGCTTTTGAAATTTATGTG
TTTGGATTANTGCCTTCTGGGTTACCNAAGTATTGACTCTGNTTAGTTTGGCACCTTTTC
CGGNCTTAACANAAAAATNGNAATTTGGTTAATTCTCTTAAANATTNGGTNGNANCTAGT
NGANNGGAGGTNATNNCCTAGGAANTTTACNAAGAANNTTNGNNACTTGCCCNGGGCNGG
CGNTTTNAAANGGGCGNNTTCCANCAAANTTGGCGGGCGTTACTAAGTGGGNTCNCNNCC
NTCGGGACCCGAGCTTGGNCGTATTNTTGGGGAGNACCCCCTCCCNCCCCCNCNTTNTTT
TGGAATAGAAATTCCCCCCC

Sequence 1167

CCCTTAGCGTGGTCGCGGCCGAGGTACTTTTCTGTCTTCTAATTTTTAAAATTATTAATG
TCTTCTATTTTTCTAAGGCTGATTTTTTCTAATGTCTGTATTTTTCCCTTTTTTTCACATC
TTGACATAAGTAGAGTTCATTTATTTTCATTTATTCTTGTATAAAAATTACTTAAGGT
TAGGAATAATTAAGTTTTGCTCCCATGTTTTTATGTGTAACAATCTCAATGTTGTATGTC
ATCTACTTCAAAATTTCAAGCTTCCCCTTTAAAATACTGTTTAAAAAACTTTATGAAACC

AGTATTTCTCTCAACCCTTNGTGTAATACCTGGTTTTAAATGTGGTCAAGATAAT

Sequence 1168

CCCTTTCGAGCGGCCCGCCCGGGCAGGTACGCAGGGATATACAAAGGTGAAAAGAAACCT GAAATATTTGTTGATGGCTGGAATATTTATTTTTTTTGATCAAATAGATGAACTGCCTACC TATTGGTCAGAATGTGGAAAAAATACAGAATCTGTTGGGCAGTTATGGTTGGGCCTTCTT CGTTTCTACACAGAGGAATTTGATTTTAAAGAACATGTTATTAGCATCAGGAGAAAAAGT CTGCTTACAACTTTTAAGAAACAGTGGACCTCAAAATACATTGTTATTGAAGATCCCTTT GATTTGAATCATAATCTCGGAGCTGGATTATCAAGGAAAAATGACAAATTTTATAATGAA GCTTTTATCAATGGTAGAAGAAGTATTTGGGATTTCCTGGTCAAGGGGATTTCAAANGAC TACCCCTCAA

Sequence 1169

Sequence 1171

Sequence 1172

CCCTTAGCGTGGTCGCGGCCGAGGTACCAACCCTATTTTACAGATGGGAAAACTGAGGCT CAGAGAGGTTAAATCACTTACACAAAGCCACACAATTTTGAGTGGCAGAGCTGGAATGTG AATCCAGGCAGTCTGACCCTGCAGCTTATGTGCTTAACGATACTGCCTCTCATGTGGGCA AAGGATGGCCCAGGAGAAAGGCAGGCCCAGATTCCAAATCTGGCTTGACCGTCTAAGAGG CTGAGNCTTAACCTCT

Sequence 1173

CCCTTCGAGCGGCCCGGCCGGGCAGGTACGAAGACAGCATCCTTCAATCCCGCCAGCTCA TGTGCATCTGAGGGTGGGGCTCTGTCTTCATGCTAGAAACCAAACTGCTCTCACAGCTTC CTGCTAAATCACCACGGCTAACGGATAAGCAGAGACGGACTACCCGCGTACCTCGGCCGC GACCACGCTAAGGG

Sequence 1174

CCCTTAGCGTGGTCGCGGCCGAGGTACAGATTGCATAATAATTTTTAGATAAATGTCAGG AACAGAATCACATTCTTAAAAGGCNGAATTTCTATAAACGTGTGTATATGTTGAACAGAT GAGCAGCTCTGCAAAGATGTGTATAACTGCATTTGAAAANGACAGTGAAAATTTTGGGTT ACTGTAGATGTCCCACAGTCTGNCTTGGAATTTAGTTCTGTGACTAAAGGAGGCTTACAG NTGCTCCAATTTTGGTTCTGNGGGGTACCTGCCCGGGCAGCCGCTCAAGGGCGAATTCCA G

Sequence 1175

CCCTTAGCGTGGTCGCGGCCGAGGTACATGGTCACAACAGATGAGCAACTGATATCACTC

ACACATGCTATTAAGAACTGTCCTGTGATAAATAACAGACAAGAAATTCAGGCATCAGAA AGCGGAGCCACAGGTAGAAGAGTTATGGACAGTCCAGAGCGTCCAGTTGTAAATGCCAAT GTCTCAGTGCCATTGATGTTCAGAGAGGAAGTGGCTGAATTCCCACAGGAAGAGTTGCCC GTTAAACTGTCTCAGGTGCCAGACCCTCCAGATAACATGAATCTGGCCAAGAATTTTCCA GCACATATTTTTGAGCCAGCTGTTGTTAACACCAC

Sequence 1176

Sequence 1177

Sequence 1178

Sequence 1179

Sequence 1180

Sequence 1181

Sequence 1182

CCCTTAGCGTGGTCGCGGCCGAGGTTCTAATGAAAGCCAGATAAAGGGATGACGATCAC
AAGGTGAAGTCCCACANTAGGCTATCTGCAAGCTGAGGAGCCAAGGACCANTCATCCAACC
TCAAATAGNANAAAANGGNNNGNAAGCCCGACAGGGCAGCCTTCAGTCTGTGGCTGAAGG
CCCTAGAGCCCCTGGCGAACCACTGGTGTAAATCCAAGAGTCCAAAAGCTGAAGAACTTG
GAGTCCAATGTTTGAGGGCAGGAAGCACCCAGCACGGAGAAAAGATGGGCCGGAAGACT
CAGCCAGTCTAGCATTTNCACATTTCCCCCGCGTACCTTGCCCNGGCCGGG
Sequence 1183

CCCTTTCGAGCGCCCCCGGGCAGGTACTTTTCTTTTTGTGTATTACTTTTCACTTAGC

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Table 1

ATAATGTCCTCCAGCTTCATCCATAGCAGCTTCATCCATAACTTCTGGGTGTAGCCATGG CAAGGGTAAACTGATATGGCACACTGGTGGGCATGTCTTCTGGAGAGGTGCTTCCAACTC TTCCCTGTTTTAGCTAGTCCTCAATTTGTCTGATGTCTGAACCCCACTGCCAGAGTTGAG TCTTGCCTGCTGAGTCATGTCCAGACTCCTACCTCAGAAGTATGAAGCATAACTGGTGTT ACAAACACCATCTTCAGAACA

Sequence 1184

Sequence 1185

Sequence 1186

Sequence 1187
CCCTTTCGAGCGCCCCGGGCAGGTACTCTCAAATAACCTGTGAGTTGGGAAATTCCT
CTCCTCTTGAGGTCCCAAGATGGCGTGGGGTTCCTGGGCCTGTCGGAAAGTGGCATTCTT
TACTAACCACAGGTCAGGAACCCTGCACAGGAACTGTGTAGACAAGGTATGAGGCCAGTT
TTCCCAAGGAACTTTTATTGGCTCCATAAGTCAAGTTTGAGTCCTTAAAGGAAAGCACAC
CATTCCCATCAAAGTCCTGGTAAAACAACTAGTTTCTCTAATTGTGTCCTGTTGCAAAAG
AAAACAGATTCTTATTGCACTTGTGCAAA

Sequence 1188

CCCTTTCGAGCGGCCGCCCGGGCAGGTACATATCTTACTTGATTATTTTATTTTCTATCC CACCAATCCACACCTTCACTGGAAAGTAAGTTCCATAGAGCGGAGACTTTTGTCTATTT TGTTCAATGAACATCCCAAGCACCTAGAACAGTTTCTGACACATAAGAAGTATTCAATTA TGTGCTGGCTGAATGTATGAATTAATAAGTTGAGATTCGATCACTAGTTGAAGTATAAAT ATATATTTTTGCAAGAATAAATGCTACAGTAACTGATTATGACAGCTAATTCTGTGTACC TCGGCCGCGACCACGCTAAGGGCG

Sequence 1189

Sequence 1190

CCCTTAGCGTGGTCGCGGCCGAGGTACACCTGGTTTCACAGAAAACAAAGCAACCTCTTA AACACCAGCTCGGCAAAATGATAGGGCTTTTCCCTTCGAATTAGTCACCACAGGTGNGAA AGACAGAATGACTAATNCCATCTNGANTAAANATAGACCTTNNNAGAAATCAATNACNCT TATNTTACA

Sequence 1191

Segu nce 1192

Sequence 1193

Sequence 1194

CCCTTAGCGTTGGTCGCTGGCCGAGGTACATATACATTATNGTAATTAAAAAGCGTGCAT GTGTATGTATTAAAAATAATAGGTATATAAACAAATACANTATNTACAATNNAAACACCT AAACGCAGAGGCTGCTGTTATC

Sequence 1195

Sequence 1196

CCCTTAGCGTGGTCGCGGCCGAGGTACTAAAGGGAAGTTGCTAGGAAATANAGCAGGTAA TTTNTCGTTAATTATGGAAACCATNGCAACACAGTAAATATTATGTCTCTNAATTTGTCT TTCAGTGNTTTTTTGGCATGANTGTNATGGAANAGTAAACAAAA

Sequence 1197

CCCTTTCGAGCGCCCCCGGCAGGTACAGGAAGTGTCCGGAGGAATATATAGAAAACT GCTAGGCTTAATTCTCAGAGGGAAGATTGGGTGTTTTGGAGTGGGAAGCAAACATTTTTTA CTGTATACACTTGTACCTCGGCCGCGACCACGCTAAGGG

Sequence 1198

Sequence 1199

Sequence 1200

Sequence 1201

Sequence 1202

Table-1

Sequence 1203

Sequence 1204

CCCTTAGCGTGGTCGCGGCCGAGGTACTTTTTTCCTACAAATGAGTAATTGAAGAATTTT GTTTAGCCAGACCATTTAATTCTCATCAATTGCATAATATTTCTAGTTAAATCCGAACTT CATTCTATATTAAGTAACATTTTATTCAGATCCATATCTAAATAGCAATTTTGTGAGATT TACTAAGAATTTTTCCTGGTATGTATGGTTTTGGTGTATTGGAATGTACCTGCCCGGGCG GCCGCTCAAGGGCN

Sequence 1205

Sequence 1207

Sequence 1208

CCCTTAGCGTGGTCGCGGCCGAGGTACCCATATTGCTAATGCTAGGATCAAGATACCACA TAGCCAGAACAAGAAGTTGAAGGTAAACATAGAATATTTTATACAGGCACTCACACCTGC CATTTCGGAAAAGGATTAGGAATCCAGATGCCGTGAATTTAACTATTCGTTACAGGCTTG TCCTGCAATATGCTCTGGAGCAACTTGCCTGCAGAGATTTCTGTATCCACGGACATTTAA ATATCGCAAAGGCTATCTCCAGGCAAGTATGTTCCTTTGCTTGTCATCCCCGCGTACCTG CCCGGGCGGCCGCTCGAAG

Sequence 1209

CCCTTTCGAGCGGCCGCCCGGGCAGGTACGCGGGGGAGGTCTCCATTCAGTAGGTGGCCC GGGATGAAGGCCAGTGTTGNGGCTAAACCACACTCTGGAATTCTGTCAGCAAATTCCTNG CTGTGTGAACTTGAGCAAGCCATTCACCTTTCTTAAGCCATTTTCTTGATATTTCACAGA GCCTCACCAAGTATTCAACGAGAACATGTAAGTGAAATGCTTCACAAAATGCCTGGTAAA TAATAGATGCTTAGAAAATGGTAGAGAGAAAAGAGCAGTCTCTGCCCTTTAATGTACC TCGGCCGCGACCACGCTAAGGGCGAATTCCAG

Sequence 1210

Sequence 1211

CCCTTAGCGTGGTCGCGGCCGAGGTACTCCTGCCAAGAGGGCGACAAGTTCAAGCTGAGT

Table 1

Sequence 1212

Sequence 1213

Sequence 1214

Sequence 1215

AGCGGCCGCCGGGCAGGNACAATTAATTGTGTTCTTGTGACCTGATGATTTT INGAAAA
TTTGCTTTTCTCTTTAAGAAATTTAAGTTTTCAAGGGCCGTATTAGTTATCTAAATATTT
TGGGCTAATGTTGACTTATAAATAAAAAAATTTAGAAAATATATTCATGATGACAATTT
TGTTACTTACACTGCCTATTCTTTATTTCTTTTTTTAGTTCAAAGGTGAAATTTTGACCTT
TGTATTAACAAAGCCTCAAGAAAAGAGAAATTCTGCCTTTTAAACATTGGTTTTCCTTGC
AT

Sequence 1216

CCCTTAGCGTGGTCGCGGCCGAGGTACANGGAGGAANTNAGANGTAAATNNAAACCAGAN CTGGATTACTCCGGTCTGAACTCANATCACANTAGTGACNTTAATCTGTTGAACAAACTG AAC

Sequence 1217

Sequence 1218

CCCTTAGCGTGGTCGCGGCCGAGGTACAATGTTAAAATAATCTGACTTTTCTATGATTTG GCTTTTCTGCCTTGAGTAACTATNTAAGATATCTAGCGTGATNTTNTTTNATNTGGGCTA CTTTTTAGAACAAAACANAGGTNTTTANAANAAACCACTTGCCCACANGGNCTTTTGAAC CGTTTACCTAAGTCAAGTGTAATTGAAAAACATAACCAAATGCACCANGGGGTNTATTGT NAGATAATAAAA

Sequence 1219

Sequence 1220

CCCTTAGCGTGGTCGCGGCCGAGGTACAGAATTATCAACTGATTTGGTCAGTTGCTTCCA

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Table 1

Sequence 1221

Sequence 1222

Sequence 1223

Sequence 1224

Sequence 1225

Sequence 1226

Sequence 1227

Sequence 1228

Sequence 1229

CCCTTTCGAGCGGCCGCCCGGGCAGGCACAGAAAAAAAATCTACACCAGGTAACACTGGA

Table 1

GGATGCAGGGCTACATTTGCCACTGAAGAAACATTGTTCTCTTGCATCTGAATTCCAGTG CTTTCCAAATAGATGCGTAGATGATGAAAAATGGAGCAGCTTCTTTTATTTCTTCTTCTT TCCTCCTTGAATTCTAGTACTTTGTGAACTGTTGAGGTGTCCCTTCCTAAGTCACAATTC ACACTGATGCATACACTATAGTGAAACACTGGCTTTAAGAAAACTGATTAACAGAAAACC GGCAATTGTTATTTTAAA

Sequence 1230

CCCTTTGAGCGGCCCCCGGGCAGGTACAGGTTCTAAAACGAAAGTATTTGGGTAGTCCA CTTAGTGATATTAGTGGATNGTGTAGACAATAATATTAGTCCTAGA

Sequence 1231

CCCTTTGAGCCGGCCCGCGCGGCAGGTACTCCATAATATAATCTTTTAAATGGGCAACT
TCTAAATATTGATCAACCATTAATAATAATGCTTATAGGGGTAAAAGAAAATNNTTGAAG
CACTGAATTCAGTAACCTGGGTCATGGTCCAATTTTGCTCACTACTTCATATCTTTTATG
TAGAATAATTCCTATNAACATGTTCCCTAAATTCCCATCAGTTTGTAAAGGCAATGGATT
AAATTATTCAAATGTAGCTATTTAACCGTCAGTNACAATGCCTAGAAACCTATTTATTCA
TCTGTAATATTAAGAAGGCTGAATTTGATTGGATCTTGAAAAATCC

Sequence 1232

Sequence 1233

CCCTTTGAGCGGCCGCCCGGGCAGGTACTCCATAATATAATCTTTTAAATGGGCAACTTC
TAAATATTGATNCAACCATTAATAATAATGCTTATAGGGNAAAAGAAAATTTTTGAAGCA
CTGAATTCAGTAACCTGGGTCATGGTCCAATTTTGCTCACTACTTCATATNTTTTATGTN
GGATTATTCCTATAAACATGTTCCCTAAATTCCCATCANTTTGNAAAGNCAATGGATTAA
ATTATTCAAATGTGGCTATTTAACGGCCAGNAAACANTGCCTAGAAACCTAT
Sequence 1234

CCCTTAGCGTGGTCGCGGCCGAGGTACAGTTTTTGCNGATTGCNNNANGANTGCCCCATG
AGGGGGGANAAAAAAATTNTTTTTTTTATTATNTTGGATCTAGCCTANNTCTATTTTTC
CACCTGCCCCAATTAGGTATTTCCCANTTGCNACCGGCCTAATTCCANAATTAAATTTGT
NCCTNTTATAATTNGTTTNCTNNANTCCAATTGAAACCCCTTTTGGGGTTATTGNNTCCN
CNCACACTTTTTTNATTGTTTAAANNCCANTAAAAAACCANTNTTCNTCGGNTATATAAA
ATAANACGNCCTTTTTACNTTATNGTTAATTAAAAAANCCNCAATTCCTTTTNGTTNGNCC
AACCCACTTGGAAAANTTCCAANTAAACCTCTNCCTTCCACCANGNGANGGACCAAAANN
AGGAAAGTAACCCCCTTANTGNNAAAAGGNNTGGGGGAAANNTTTNGGGCCTTTTGGNGG
TTNCCGNAAAAANAAGGGGNTAAC

Sequence 1235

CCCTTCGGCCGCCCGGGCAGGTACTCTGTAAGTCTGGAAGAACAGGTCACATTTATTCAG ACTTCTCCCCCACAATTTTAATCAAGCACCTCCCAGTAACAAGTTATTTAATTAGATCG ATTTTAAGTTGACAACAGATGTATCAGATGAGGAAAAAATTGAGCATGTGTGGTGTGATT ATATAATAGAATTGGTTTCTATAAACCATTTATAGTATTCAACTTTTATAGTATTACTTT TTCAGATGTATGGATATATAGACTATTATTTACTAACTGAGGCTCTGCGAAGTGTAGTGT AT

Sequence 1236

CCCTTAGCGTGGTCCGCGGCCGAGGTACTCGGATCTNTTATNNNGTNNAATAANNCCTCT TTCGTCTACAAGCCACACTTATNCAAAATTNTGTGGACAACTCACACTNGCTATNATACC TGCTTANATTCTCCTANTTAGTCCCTGAGGGTTTATACCTTTTATTCTTTCATTGAAATT TTAACAGAGGTTTCTGTCGGAAGCAGAGTTAAATGCCTATGTTNACTCCATCATGGTTAT CTGAAAGTCTGAGGNGCAATTTCAAAAACTCA

Sequence 1237

CCCTTTCGAGCGGCCGCCCGGGCAGGTACAAAGCTAGAAGCAGCCTGGTCCAGATGGCTA TACAAACCCGAAACTGTNTACACCCAGACTTTATTCTTCTACAACCAAATTCCTCAAACA CACAATCTGAACAGTAGCAGTGAAAGGGAGTTTAAGGTGGGGGTGAGGGAGAAGGGAGTA ATATGGTTTTTTAGTAATATAGTAATTTACA

Sequence 1239

CCCTTTGGCCGCCCGGGCAGGTACGCGGGGCGGTATGTNGGGCCAGAGCATCCGGAGGT

Α

ANANAACCTNTTTTNTNCTTAGGAGCCACTATGAGGAGGGCCCTGGGAAGAATTTGCCAT TTTCAGTGGAAAACAAGTTGGTCCGTTACTAGCTAAGATGTGTTTTGTACCTCGGCCCGC GACCACNCTAAGGGCNAATTTCCAGCACACTGGCGGCN

Sequence 1240

CCCTTAGCGTGGTCGCGGCCGAGGTACGCGGGCTACCAAACCTGCATTAAAAATTTCGGT TGGGGCGACCTCGGAGCAGAACCCAACCTCCGAGCAGTACCATGCTATATTGGTCACTGT AGCTCTGTAACATAGTTTGAAGTTGGGTAATGTGATTCCTCTAGCTTTGTTAGCTCTGTT GTTTTCACTTAAGTATTACTTTAACTATTAGGGCTCTTTTTTTGGTTCCATATAAATTGTA AAATAAATTTTTCCAGTTCTGTGAAGAATN, CATCGGTAGTTTGATAGGAATAACATTGA ATCTGTACCTGCCCGGGCGGCCGCTCGAAGGGCGAATTCCAAGCAC

Sequence 1241

CECTTTGAGGGGCCCCCGGGCAGGTGGATCACTTGAGGAGTTACAGACCAGGACTGGTC
AACATGGCGAAGCCCCATCTCTACTAAAAATACAAAAATTAGCTGGGCCGTGGNTGGGCG
TGTGCCCCGGTAATTAANTNCCCNANCTTACCTTTGNGGAAAAACTTGAAGGGCCAGGGA
AGAAAATTNCNGTNTTTGGNAAACCCCCNCCNTAAGGGTTGGGGAAGGGATTTGGCCAAG
GTTGGAAGTTTCNAAAAGGAATNTGGCCAACCACAAGGNTGNCCAACCTTCNCCAAAGCC
CCCTTGGGGGNCCCAAAANNNAAGNTTGGANGTAACCTTTCCCCAATTCTTTTNAATNAT
ATTACANNTATNTAGATANACNNTATAANAGNGANNNGANANTGGGNTNACCCCCTTNNG
GAGGCNCCGGNCNGNAACCCCCANCCNNNCCTTTAANAGGGGGGGGCCG
Sequence 1242

Sequence 1243

CCCTTAGCGTGGTCGCGGCCGAGGTACAGAATTCAGTTTCTGGGGAAAGTGAAGCNTGAA GGGAATCATANGAAAAATTTGATTTTTGTGTATGGTGTAAGAAAAGAGTTCCGATTTTCA ATCTTTTTGCCACANTGGGATTNTCCCAGGCCTTTTTTCCCAACANCCCATTGTTATTTT GGAAAAGGAAGNAACTTACTCNTTNTTTCCCCCGCTTTTTTGGTCGGGAANTATCCTTTT GGGGNCAAAACCTCTTATGNTTTGGGNAAAAGAGNGCCCCTTTTCACCTTTTTTGNCCTT TTTCNAACCTCTTNCAATTGGGGGTCTTTCCACCCAATTAACCCAAAAGGNTTTGGAACCC CCTTNGGAAGNTTTNCANCCCTTCCCCCAATTCCTTATCNNCCTTGNGAATTNCCAAAAA AACCNTTGGTTGCTCCNGTTTCCGTTTCNTTTAAAANTTTTTCCTCNCCGGGGNAAGTGG GAAACCTGGTTTTGGCNTTCCAACCCTTNGNCATTTGNCCATTGGAATACCCCCTCAAGN AAAGNAAAAGGNCCTTNGNTTTTGTNNGGCCNTTNGTTGGCCCCCAANG

Sequence 1244

CCCTTAGCGTGGTCGCGGCCCGANGTACAAATAANGTCTTCCAAGGGTTCAGAATAGAAA
ATGATNTCTTCCAGCTTGGGGACATTTGGGAAATTGGGATTCTTTGGGGAAATGTACGTA
ATCAGTATATTCTGGGAAAACATANTANAGAATGAATNNATAAATTNCATTGAATTNGGA
ATATGTTGTCCATTCTCCCTGTAACTAATGCTATCAAGATANAGTAGAAATACCACATTT
CAAAANCAGCTGGAGTANACAGGTCTTCATAGGCTAGCTTGGAAACCTAATAGCTATTAA
TAATGAAATTTTAATTATACTCTGGATTCTAAACAATGAACACCACANTGATCTTTTTGAC

TT

Sequence 1245

CCCTTAGCGTGGTCGCGGCCGAGGTACAGATGTGTCCTTTCTTATAGTCNGTCAATGCTG GGAAGTAACAGGCAGATGTGACTTCACTTGANCATTTGGANGAANCAAAAAAGGTTGCGC TTGNTCGNNCCTTAGGGTTTAGATGGGCAAGGACCTTGCTTTTTGCNTCCCCAATTTCTT

Table 1

AGGGTAGNTGTTNTTCTTTGNGTTGCANGGGATNNGTANACCGGTACATCCTTCTTGNNG GAACCAAGGGGNNACNTTATGAANTGNAAAAGGGGANGTTCCTTTGTAGTAAANGGCCT TGGATTGGTTTTCAAANNGGNAAGNTGGGGTTCCACCA

Sequence 1246

Sequence 1247

Sequence 1248

Sequence 1249

Sequence 1250

CTNTACATGCATGCTCCAGCGGCCGCCATGTGATGGATATCTGCANAATTCCCCTTAGCG TGGTCNGCGGCCGANGTACTTAGGTGCCTACAACATAAACAGCA Sequence 1251

CCTGTAGATGCATGCTCGAGCGGCCNGCCAGTGTGATGGATATCTGCAAGAATTCGCCCT
TCGAGCGGCCGCCCGGGCAGGTACGCGGGCAACAGTTAAATCAACAAAACTGCTCGCCAG
AACACTACGAGCCACAGCTTAAAACTCAAAGGACCTGGCGGGTGCTTCATATCCCTCTAG
AGGAGCCTGTTCTGTAATCAATAAACCCCGATCAACCTCACCACCTCTTGCTCAGCCTAT
ATACCGCCATCTTCAGCAAACCCTGATGAAGGCTACAAAGTAAGCGCAAGTACCTNGGCC

GCGACCACGCTAAGGG

Sequence 1252

Sequence 1254

Table 1

TTGAGACTATACCTAAAGGAAGAACATTCTCCTCTGTTGCACACTATTATCCAATTGGAT AGACCCACATCTAAATGTCTGCAATTACAGTAATGTCAGCTGGGCATTGGTGGCTCATGC CTGTAATCCCANC

Sequence 1255

Sequence 1256

Sequence 1257

Sequence 1258

Sequence 1259

Sequence 1260

CCCTTTCGAGCGCCGCCCGGGCAGGTACTGGTGGGATTGTTAGACCATCCCAAAAAGGA
AGTGCACCTTGGAGTCTGTGGAGCTCTCAAGAATATCTCTTTTGGACGTGACCAGGATAA
CAAGATTGCCGTAAAAAACTGTGATGGTGTGCCTGCCCTTGTGCGATTGCTTCGAAAGGC
TCGTGATATGGACCTTACTGAAGTTATTACCGGTGAGTTCTAGGCCTAAGGAAAATTGCT
AAGTCAGTGTTACTCTCTAGTGATGTTGAGAACTAGAGGGATTTCCAGACCTTTTACTTT
TTGATGAAAGGTTGTGAACTGGTGGCTGTGGGTCAAAATCCATCTCACAGNATTTGTTTT
TGGATC

Sequence 1261

Sequence 1262

CCCTTAGCGTGGTCGCGGCCGAGGTACACTCCATCAAGCCTGGTTCCTAGGATGCTGGAC
TTCTAGCTTAGTGAGAATGCAGTATACTTTTTTGAAAACTTCGTGCAGGAATCCCTCAAAT
GCTGTAACTAGGAATGGGTCAGTGAAGTTCAAACGACTTTTCCTTGAGGGAGTATTTTAA
TCGGACAAGGGAACTCTTTTTCTTTTGGGCAATGGCCAACAGGACTGAGAAGCCAGAGAG
CTTGCACCTGAGCCATCTCAGCCGTGAGAGTAACAGTCCTAGGAAAATAGATGGGGGCTG
GGGGTAAGGAAAT

Table 1

Sequence 1263

CCCTTTCGAGCGGCCGCCCGGGCAGGTACTTTGTGTTTAAGAGAAATTCCTAAACTGGAT
ATATGTGGCAGGCTGAAAGCACTGTGAGTTGAAGTCAAGGGGAGAGGTCCAGGCGCAGTG
GCTCATGCCTGTAATCCCAGCGCTTTGGGAGGCCCAGGCGGGAGGGTTGCTTGAGGCCAG
AAGTTTGAGACCAACTTGGGCAACATAGCAAGACCTCGTCTCTACAAAAGATCNNNAANT
NAATANTAAATTAAAGTTCCTTTGGGCCGNNACCACNCTAAAGGGCGNAANTTTC
CAGCCACCACTGGCCGGC

Sequence 1265

CCCTTTCGAGCGCCCCGGGCAGGTACCTTATTGTTAAAGTGAGTCAGATAAATCTTC
AATTCCTGGCTATTTGGGCAATTGAATCATCATGGACTGTATAATGCAATCAGATTATTT
TGTTTCTAGACATCCTTGAATTACACCAAAGAACATGAAATTTAGTTGTGGTTAAATTAT
TTATTTATTTCATGCATTCATTTTATTTCCCTTAAGGTCTGGATGAGACTTCTTTGGGGA
GCCTCTAAAAAAATTTTTCACTGGGGGCCCACGTGGGGTCATTAGAAGCCAGAAGCTCTN
CTCCAGGGCTCCTTCCCAAGTGCCTANAAGGGTGCTTNTAGGGAAACATTAGGATTCCCA
GCCCAGGGGGCT

Sequence 1266

Sequence 1267

Sequence 1268

CCCTTTCGAGCGCCCCGGGCAGGTACGCGGGGGGCTTTGCAGATGTGATTAAGCAAA GGACCCCAGATGGGGAGATTATTTTGAATTACCTAGGTGGGACTCCACGTCATCACAAGG GTCAGAATCCAAAGAGATGTGAGAATGAAAAGCACAAGTGAGAGCAGTGGGATAGCCAAA TTTTAAGAGGGTTGTGAGCCAGAGAATATAGGCCGCCTNTAGAAGCTGCAGAAGGCCGGG GTGGACAGAGTCTCCCTGCGAACCTCCAGAAGCAGCACACCCTGCCCACTCACGGTAGA CTCTCGATCTCCGGGCTGTAGAAATAATACATCTGTGCTATTTTAAG Sequence 1269

CCCTTAGCGTGGTCGCGGCCGAGGTACATTTAAAAGGTGATGCTAATACTTTAAAATGTT TAAGANATAAGATTTAAAAAGCATTTGTAAATTGTATACTTGCANANGTCCGTNCTACAT TGGCATTTTGGAACAAGGNACATTAATTGGTT

Sequence 1270

CCCTTAGCGTGGTCGCGGCCGAGGTACTGCAAGCAACAGTTACTGCGACGTGAGCAGCAA CAGAAGTATNCTCTCCTGAAATTATTANGCAGTACTTGNATCAACCACTCCGCCGTTACC CATACCAAAGCCGTCGCCTTGGNCACCG

Sequence 1271

CCCTTAGCGTGGTCGCGGCCGAGGTACAATTTTTAGTCAAGGGATTGTTTGATACTCTTT
AAGTTCACTGCCAGGCCTACCACTTATCTCTGTCCCAGGAGGAGAGTTCCTTGTAATGAG
AGGTTTTTAAGACGTCCTTTGTTCTGGGATGAATCATAGGGAATGACTGCCTTTGGAGCT
CAGGATATTAAACTGAGTGGTGTCAAATATTNCCAGGATCAATTCGACAATGCCATGTGT

Table 1

ACCTGCCGGGCGGTCGNTCNAAAAGGGCNGAATTTCCANCACACTGNCGAGNCGTTACC TANTTGGATTCCCGAGTCTTCTGNTTCCAAAANTCTTTTGGCGGTTA

Sequence 1272

CCCTTAGCGTGGTCGCGGCCGAGGTACTCAATGTCACATTNNCATAGGAAAGGTTATATA
TACACTATACACTTCAACCTTGAAATGTGGACCCAAAAAACATTCTATTTTTCAGTAATC
NATTGAATTTNGGTGAGGGGTCCNACACCCTCAAATCCTAANTTTATCACANAAAAAGCC
CNTNCTTGGCTGCCAAGCGCTGGCNGATGAACTTTGTNTTGCTGNANCTCTTNATGANTT
GGATNCCANAGTNTCNTGATGATCCTNTTCAATGTTTANGAGCATNTGACCNGNCATGNT
GTAGNGGANTGACTTTC

Sequence 1273

Sequence 1274

Sequence 1275

ATÁGGGGCCGGAAATTGGGGGCCCCTCTAAGAATGCCATGGCTTCCGAGGCCGGGCCCCGCCAAGTGGTGGAATGGGGATATTCCTTGCCAAGAAATTTC

Sequence 1276

Sequence 1277

GTÁCCAACACAATTGTTAATTTCCTCACAGGCTNAAGGCATTCTGGGAAGCTATACAGGG GACAGGAAGCATTTTTTGGGAGCCTAAGGGGAGCCAGTTTGGAAGAGACAGCATTCTCCT GGCTAGGACAGGTGGNGGNGGTGGCCGGGTTTNAGGNTCTNCAAGGGACCCTNTGCAGAT GCCGGGGCCCTGTTTATTCTGAGCAC

Sequence 1278

Sequence 1279

Sequence 1280

ATTTAATAAGATTTGAGCATAGATATTAAACTTAGCATGGACAGAGAAACTTATTTNTTG GGGGACTGGCATAAGTGAAAGAACAGAATCAGTNTGACCAGAGAGAGCATAAAAACTTT

CCCTTTCGAGCGGCCGCCCGGGCAGGTACCTCTGACTTTCTAACAAATTACCATAAAGGA AGAATATTTTTCGTCTACTATTGTTAGAACACCTTAGAACCATCAAAAATATAATTACAT GGCTAATAGAAAAAAAGAGCAGTTTTAAAATATGTTTTATGTAACCTATTTTCATTGTT TTTCATTTTGTTGTTGCCGAATAGTAGTTGTTCTAAGTAAATACAGGTCTCAATTTCACT ATGAATAAAAAAAAAAAAAAAAAAAAAAAAAAAGTACCTTGGCCGCCGACCACGCTAA GGG

Sequence 1282

CCCTTAGCGTGGTCGCGGCCGAGGTACTCTTTCTTATTTTCTTAATCAATACAGCTAAAG GCTTTGGGTTTAGTTTGTTCTTAAGTTCCTTAGGTGTAAAGTTACGCTGTTGAAATGAGA TCTTCTTATTTAATGTATGCATTTATAGCTCTAAATTTTCTCTTAGCACTGGTTTCACTG CATGCTCTAAGTTTTGATA

Sequence 1283

ATTAAAAANCNGGANTTGGTNGGTTNCCCAAGCTNGNNTTGAANNNCTGGGNTTAAACAA NNANNCTNGTTTGGCCNNCCAAANNNCTNGGATTANNNGNNTGAACCANCNNACCCANNT TTTAAAANCNNAATNTTTTTNNGGNAANNTNANANANCNNNCCCAAGGANTTAAANGGGN **GGGAAAACNTGGANNTTTGGNTTTTTTT**

Sequence 1284

CCCTTAGCGTGGTCGCGGCCGAGGTACTCACAAATAACAAGACAAATTTGACCTGTTCAA TAAATAGAAATGAAGTGGCTAAAAATGTTTAAATGGAAGTGGAAAACAGTCGTCTTCTTT GTACTTGGTCTCTCACGATAATTCTTCTTTGAGCTTTTGAGTAGCTTCTCCTTTTTC ACTTAGTTCTACATGTATTCTATGCAGTGAGGTTTCAGATGCAGACAATCTTGACTGAAG CTGTTGACAATCTAGGTCTTTTTGATGAAGGGTTGCCTGAATATTCTTTTTACTCACAGA TTCTTCATTATGTTTCTCCT

Sequence 1285

CCCTTANNTTGGTCGCGGCCCGAGGTACTTTTTAATCTTATTATAAACTAACCCCTGTG GTGGTGTGGCTACATTCTTTGAGTTTAGAAAACGAGATAAAGAATTGCTCATATCTTCCC AAATTGTGTAGTATAAAAAGAATGCTGTCCTGGTTGTTTTTTGTAGAATATGGAAGTCCC TGCAGTAAGTAGGCAACATGCTACCCTTCTATTCAACACAGCACTAGAACAAGGCAAGTG GGACCTTTGTCGACACATGATTCGATTTCTTAAAGTCATTGGCTCTGGAGAATCTGAGAC ACCTNCATCCACACCCACAGCTCANGTTAAGCTGCAAAAGTTACACATCTTCTCTAGGCC ATACACCCACGTAGCATCTTTCTCTAATGGTACCTGCCCGGGCGGCCCGCTCGAAAGG Sequence 1286

CCCTTTCGAGCGGCCGCCCGGGCAGGTACACAGGATGTGATCAACAAAGTTCTATTTTAC AGGAGTATGATCCTGTCGATACCTTGCCGTAGGTTATGTAACATGATTGGAGCGCAACCA GCTGTTCTCTTGCACAGATCGAGAGTGAGGGGTATTTTGTGACATTACACAGCATCAGGA GCCTGGTGCCTCATCAGGTGTAAGTTCTTATAACCACTCTTGGCAAATTTATTAAAGACA GGAACACAGTCAATCTGTAACTCATAAGTAGCTCTACGTTTACTTGAATTCACAATCCCT GGATGAAAGCCAGGATTCCTGGGATGAACAGACAGTGGCAATTAGGATGTGAAGACAGGT AAGTCACCTTCCACTNAAAAAGCAGCCAAACTCCCTCAAAGGAGTAACTTTTAAAACCTG GATCTAACCTGGAANGGGCTAAAAANTGGCTTGGTTCTGAGTTTTTTT

CCCTTAGCGTGGTCGCGGCCGAGGTACATTCCAGTTCTTTATCTGAATACAAGCGTTTTG CTTTTATTTCCAGTTTCTTGGACCAGAACAATAAAATACATAAGACATCGTTTCTATATG GTCATATACTATATAGAATAAAGAATTGTTATGTAAATTATTAAATGAGTATACAGACCT

Sequence 1288

CCCTTAGCGTGGTCGCGGCCGAGGTACCTTGTGCAGACCGCCTACCTCATCCTGTGACTT AGAATGCCTAACCTCCTGGGAATACAGACCAGTAGGTCTCAGCCTTATTTTACCCAGCCC

Table 1

TTGCTACATTCAAGAAGGAATCACTCTGGTTCTAATGCCTCCGACAGAATGGTCAGATTC
TCAGACTCTAAAGCAAAGAAGACTATGTTCAGTGACAGCAAGACTGTTGAAGAAAAATAA
ACTCGAATGGCCTTGAGGAGCTATTATCAATAAAAACAGTATAACTTATAATTATCTGTT
GTGTTACAATGAAGTATATCATCACTGC

Sequence 1289

CCCTTTCGAGCGGCCGCCCGGGCAGGTACTAAGGTTGTTAGCCCTCTGCTGGAAGAGAGT GTATTAGTCCATTTTCACACTGCTGATAAAGACATACCCGAGACTGGGTAATTGAGAAAA AGAGGTTTAATGGACTCATAGTTCCATGTGGCTGGGAGGCCTCACAATCATGGTGGAAG GTGAAAGGCACATCTTACATGTTGGCAGGCAAGAGAGAAATGAGAGCCAAGCAAAAGGGG AAACCCCTTATGAAATCATCAGATCTCGTTAGACTTATCCACTACCACAAGAACAGTGTG GGGGAAAGCACCTCCATGATTCA

Sequence 1290

Sequence 1291

Sequence 1292

Sequence 1293

CCCTTAGCGTGGTCGCGGCCGAGGTACTACCTGTTTAAGGACATACCAGAAAAAAAGTAT
TGATTTTTATCCTATGCTAAACAGTGCTGTGATAACTTTTGTATCACTTGGAGAATGCTC
CTGAAATTATGCAACACTACTAGATAACCCCTGGATCAAAGAGGGAAATCAAAAGGGGAAAT
TTCACACTGTATTGTAAAGAGAGGAGACTTTTATGCCAAAATACAGTAAGTCTTTTAGTC
AGATAAAATTAATAATCTTAAATTCCATTCATGTTAAAGAAGAAAAACAATTAAGAAATC
TGACACTAATCAGAAGAAATTAGGAAAACGAATAAGTAAAGAATCTGAAAAGGAGAAAT
AAAA

Sequence 1294

Sequence 1295

Sequence 1296

CCCTTTCGAGCGGCCGCCCGGGCANGTACAATGCACATGCCGAANGACCTTANTNTTGGA TGTGATGAAATGTTTTCTATGCCTGGAATAAATGCCTTNCTTTGGGNTGTAATATCTTAA ATACGTATTGCTCCTCNATCTGTGAGTTATTTAATTTTTTTCTCTGAAGNAGCTNTGATT

Table 1

TCTGGGCTTTCTAGTGTGATCATCTA

Sequence 1297

CCCTTAGCGTGGTCGCGGCCGAGGTACATTTAAAAGGTGATGCTAATACTTTAAAATGTT TAAGATATAGCATTTAAAAAGCATTGTAAATTGTATACTGCAGTGTCNGTCTACATGGCA

Sequence 1298

CCCTTCGGCCGCCGGGCAGGTACGCGGGCTTCCTACTTCCACCAACCCCTCTTNGCAGA GACTGCTCCATTCCATTAAAAGGNGAAGGTTCAACTGGANACCTNCAAAGTTGGCTGGGC CT

Sequence 1299

CCCTTAGCGTGGTCGCGGCCGAGGTACTAAACGTGATGAAAAATATGCCAGACCTGGCCG GGCCTGGTGGCTCAACGCCTGTAATCCCTGCACTTTGGGAGGCCGAGGCAGGTGGATCAC GAGATCAGGAGATTGAGACCATCCCGGCTAACACAGTGAAACCCTGTCTCTACTAAAAAT ACAGAAAAAANAANAAAAAAAAAGAAAAANGGTCCTTTGTNTACTGCAGTTGTCNTNTAC ATGGCATTGGACAGGACATAATTGTAAAACATAAAAAGTGCAATTGGTTACACTTACATN TGATAGTGAATTGGCAAACGTGACCAATTTTTT

Sequence 1300

CCCTTCGAGCGGCCGCCCGGGCAGGTACATACAAAAAATCATTAACTCATATATTTCAA GAGTAGGAAATGGGAACTGGTGTTAAAACTCTTATAACATATGTCACTGNCTTAAGGGAC AGTGTTTTAAAAACGCATACCTCGGCCGGGCGCGGTNGGCTTCATGCCTGTAATCC Sequence 1301

Sequence 1302

CCCTTGAGCGGCCGCCCGGGCAGGTAGGGCGCGCAGCACTCGCCAAAGTCGTCGGA

G

Sequence 1303

Sequence 1304

CCCTTAGCGTGGTCGCGGCCGAGGTACTGTGATTAAGCCAAACTTCAGCAAAAAAGGAAG TGCTGCATTGNAGCAGTATTGAAAGTTATGTAGGTGGATTTTTAAAAAAATATTACAGCC TAAATTTTCTTAGCAAAAGTCAAATGAGTAACAACACACAGTTTGGAAACATTTGNAGAG GAGAAAACAAATATCTGACAAGAGTACCTGCCCGGGCGGCCGCTCNAAAGGGCGAAT Sequence 1305

Table 1

AAGGGATTAAGTCTAAACAATTGGGCCTTTTTAAAATAANTTATTTAAAAACCCCCAAAA

Sequence 1306

Sequence 1307

CCCTTAGCGTGGTCGCGGCCGAGGTACCC ITGTTACAAATATACCATCATCATCAGGTCT
GAATGGGTTTCCTCTACCCCCGACACCACCTGATATGCTAAATCCAAGTTCTGGATCCTT
TTCAACCCTCACTCGAATCTCTTGTTTTGCCAGTTCATGGCCTTGTCTAGGAGAACAATG
GGGCTGTGTATATGGAGACTGGTGGGCCACTTTCAGCATCAAGTAATCAATTAGTTGTC
TCTAGAGGGATGCCTTGCCACAGATGCCTGAGGGGGGTGATGTATTTGACTATAATTTGC
CTGAGGCCTGAGAGGCTGGCCCATCTGTCCATTACTCAAAGGCATCTAAGAAAAACATGA
AGTATCTTAAAATGACCAATAATAATGTCTTATTTCAAATATTTTGGATTTCTTTGGAG
CATTACAAAAGCACTAGAGTTTTCACATTCTAATTAAGTCAAACAATACCATGCCACTTA
CTATTTTTCTATAATTTTAAAACTTAAAAGAAATAAGCTATTAATGGCTTAATTCTAAAG
TTCCTGAGTGCTTGGTGGTACACTCACTTTTTTAAGCTT

Sequence 1308

Sequence 1310

CCCTTTCCAGCGGCCNCCCNGGCAGGNACAAACCCTNGTAGGNTAATCCANCTCTAATTG ANNGGGGAGCNNACCTTCTGCTTCCTTTTAATCCCAGATCNGAGGCCAAGGG Sequence 1311

Sequence 1312

CGCCAGTGTGATGGGATATCTGCAGAATTCGCCCTTTCGAGCGGCCGCCCGGGCAGGTAC

Table 1

Sequence 1313

Sequence 1315

CCCTTTGCGGCCCGGGCAGGTACATTTGGTGGAGTTTGAGACCAGCCTGGGCAACA CAGTGAGACCCTGTCTCTAAAAGCATTAAAGCATTAATCCTCGCATTTCGATAGGGCTAT GTAGCTTTTAAGTAAGCAATGTTAGAATGAGTTGTAGAGTTTTATTTTTTGTGAATATAGT GAGTGACAGATGGCAATTACATGAGGATATTTGAACGAAGGTACCTCGGCCGCGACCACG CTAAGGG

Sequence 1316

Sequence 1317

Sequence 1318

Sequence 1319

CCCTTAGCGTGGTCGCGGCCGANGTACATGAAAACATCAGTGTGACAGTTAATATTAAAT

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Table 1_

GTCAACTTGATTGGATTGAAGGCTGTAAAGTCTTGTTTCTGGGTGTGTCAGTGAGGGCGT
TGCTAGAGAAGACTAACATTTGANTCAGTGGACTGGAGAGGAAGACCCACCCTCAATAT
GGGTGGGCACCATCCACTCAGCTGCCAGCGAGGCTGGAACAAAACAGGAGGAAAAAAGGTG
GGATAGGTGACTTGCTGAGTCTTCCAGCTTTCATCTTTCTCCCCTGCTGGATGCCTCCTG
CCCTTGACATCAGACGCCAGGTTCTTTGGCCTTTGGACTCTCAGACTTACACCANCGGTT
TGCCGAGGGCTCTTGGGCCTTTGGCCACAGACTGAAGGCTCTACAGTGTTGGCTTCCCTA
CTTTTGAGGCCTTTGGACTCGGACTGGGCCACTACTAGCTTCCTTNCTCCTCANCTTGCA
GGTGGCCTATAATGGGCCTTCACCTTGTGAACATGTGANCCAATTCTNCTTAACAAACGC
CCCTTCATACATACATATATCCTATTAGTTCTGGCCCTCTGGAGAACCCTAATACACTCG
ATAAAATTTCAATTAAAATTTTTAAATA

Sequence 1320

Sequence 1321

AAA

Sequence 1322

Sequence 1323

Sequence 1324

CCCTTAGCGTGGTCGCGGCCGAGGTACTTGGTTTAGTTATGGCTGTTT!TTGCCTCTAAC
ACTTTATTTTAAAAAGAAAATTAAAATAGGTTATTGGGATCAAAGATATAGGCTTTTTG
TTACTTTGAATGATTTTTGTAATTCAGAATATGCACTTGTTATTTCAGTTCTTATTTTA
TAATTATTGGTAGAGTTCATCTAATTACCCTATAAATCCCTGGAGAAAGGTGGCCCCCCAT
ATACTTTATTTCTTGGTTATATGTATAAAAATCAGTAGGCAATGTAAAAATGTTTTTGTG
TGAATTTATGTGAGTTATAATTCTAATTCTATGTCAATATTCACCTCAGATTACCACATG
AAAGCTCAGTCACCAACTATGCCTCATACTGAAATACCCACTGATTAAATCAAGTTGACA
ACCAGCTCCTATCGTACCTGCCCGGGCGGCCGCTAAGGG

Sequence 1325

Sequence 1326

Table 1

Sequence 1327

Sequence 1328

ATCTCCACCGCGNGGCGCCGCCCGGGCAGGTACCGGAAATCTGCAGATCGCCAAGTAA
TTCCTATAATGATGCCCTCCTCACGTTTGTCTGGAAACTGGTTGTGAACTTCCGAAGAGG
CTTCCGGAAGGAAGACATAAATNCCCAACGAGGAGGGACATNGGANCTCCACGACNTNNC
TCCTATTACTCGGCACCCCCTGCAAGCTCTCTTCATCTGGGCCATTCTTCAGAATAAGAA
GGAACTCTCCAAAGTCATTTTGGGAGCAGACCAGGGGCTGCACTTCTTGGCAAGCCCCTGG
GAAGCCAGCAAGCTTCTGAAAGACTCTGGCCAAAAGTTGAAGAACCGACATCAATGCTTG
CTGGGGGGAGGTCCCGAGGAAGCCTGGCCTAATGAGTACCCTCGGGCCGGCTCTAAGAAA
CTANGTGGGAATCCCCCCGGGGCTGGCAGGAAATTTCGATNATTCAAAGCTTTATCGNAT
ACCCCGNCCGACCTTCGGAGGGGGGGGGGCCCCGGGTACCCAAGNCTTTTTTGTTTCCCCT
TTTAGTTGAAGGGGGTTAAAATTGGCGCCGNCTTTGGG

Sequence 1329

CCCTTTCGAGCGCCCCCGGGCAGGTACAGAAGGTTTGGGATTCAGCATCACTTCCAGA
GATGTAACAATAGGTGGCTCANCTCCAATCTATGTGAAAAACATTCTCCCCCGGGGGGCG
GCCATTCAGGATGGCCGACTTAAGGCAGGAGACAGACTTATAGAGGTAAATGGAGTANAT
TTAGTGGGCAAATCCCAAGAGGAAGTTGTTTCGCTGTTGAGAANCACCAAGATGGAAGGA
ACTGTGAGCCTTCTGGTCTTTCGCCAGGAAGACGCCTTCCACCCAAGGGAACTGAAAGCA
GAAGATGAGGATATTGTTCTTACACCTGATGGCACCAGGGAATTTCTGACATTTGAAGTC
CCACTTAATGATTCAGGATCTGCAGGCCTTGGTGTCAAGTGTCAAAGGTAACCCGGTCAA
AAAGAAGAACCACGCAGATTTGGGGAATCTTTGTCAAGTCCATTATTAATGGAGGGGCCA
GCATTCTAAAGATGGAAGGCTTCG

Sequence 1330

Sequence 1331

Sequence 1332

Table 1

CA

Sequence 1333

CCCTTCGAGCGGCCGCCCGGGCAGGTACTTAATTCATTCTACTTTGTGTTAACTATCTT
TTTATGTGTAGGTCTCATCACCCCAACCAGACTATAAATTCCTTTGTCATTATTTAAATC
CATGCATGGAACTCCCATAGACATCAACCAATCACCAATAGACAAGCCTTAGAACATGTA
TTACAGGAAAAATAGAGTAACACATACAACTAATACAGAGGAAGAACANTTGACATTAAA
ATAGAANAANAAATTAACACTCTTTTGGANTCTATAAANAAATGNAAACAGAAAGAAAGAT
NGAAGGATAATNCGTNAACTTAGAATATTCATTTGCCTGCTTCAACATTCAATAATTAAA

Sequence 1334

CCCTTTCGAGCGGCCGCCCGGGCAGGTACAATAAACCAGCCAAAGAAAATAACCAGTTAGCACTTAAATAAGAATCTACCATGTAAAAAACACAGTATGGGACACTACAAGGTAGTATTTAAATGACTGAGCTACAGTACCTCGGCCGCGACCACGCTAAGGG

CCCTTAGCGGCCGCCCGGGCAGGTACATCTATCTGACCCCAGAGTTACCCTTTTCTATCA
TGCCCCCGTAGGATATTGCCTGGGGACACCTGACAACAGAAAGTCTAAGGTTTTCATCTA
GGATTGGGAGTTACCCCAACACCAGCAGGATGCAGGAAAAAGTAACTGACCGGATGGTTG
CCTCAATCTGTTGATTCTTCAGTGAGTTAGCTCAGATTTTGTCCAGGAACAGCTTTCAGA
GCCAAAGATTACCGTATTGAACTCTACCAAGGCATCTGGTGACTAGAAAACTCCTGGAAG
GTGGTCATAGCAGAAATTGTTGGGAAAGTTCTCAGCATAATAAAAGAGAAATTTTTATTT
CCTTCATTGATCCACTCCTACAGGGAAAAATAAATGGCANATGAACCCATGTATGTCANA
CTCTGNAATAAACATCAGTGAGATCACAGTGTCAGNGAAATTTCAGCCTGAATTAAA
Sequence 1337

Sequence 1339

CCTTTCGAGCGCCGCCCGGGCAGGTACTAAAAATTTCCACTATCAGAAGATCCTGATT AAAATAAAGAAATACATAAAACTCAAACAGTAAGTCAATGTGATTATTTGTTTCATTTCA GAAGATCTATGGGTCCCACTGCCCGCCACACGTAGTCTCCTGGGTTCTCAACGAAGTGTG ACCAGCTCTTCTGAAGAGGTAGGGTGAATGGCGACTGTGTTGTCA

Sequence 1340

CCCTTAGCGTGGTCGCGGCCGAGGTACTTTTAACTATTTGTTTCTTCTACGATAATTGGT TTGTTGTGACTTTATCTACCTAGAGTAAATTTTGGCAATTTGCATTTTTCTCAAAATAGT TTTTGAATTTATTGTGTAAAATTGCTCAAAATAGTCAATTTAAACAAATTTCCTGTTTTA CTATTTCCCCCTTGTCATTTAAATTTTTGTATTTGTGCTTCCTCCCGCGTACCTGCCCGG GCGGCCGCTCGAAAGGG

Sequence 1341

Table 1

Sequence 1342

GGTCCGTGGTGCGGGATCGAGATTGCGGGCTATGGCCGCGAAGGTTTTTCGTCAGTACT
GGGATATCCCCGATGGCACCGATTGCCACCGCAAAGCCTACAGCACCACCAGTATTGCCA
GCGTCGCTGGCCTGACCGNCGCTGCCTACAGAGTCACACTCAATCCTCCGGGCACCTTCC
TTGAAGGAGTGGCTAAGGTTGGACAATACACGTTCACTGCAGCTGCTGTCNGNGCCCGTG
TTTGGCCTCACCACCTGCATCAGCGCCCATGTCCCGCGAGAAGGCCGACGCCCCCTGAAC
TACTTCCTNGGTGGCTGCTCCNGANGCCTGACTCTTGGAACACGCACGCACAAACTACCN
GGATTGGCGCCCGACGNCTGCGTTGTACTTTGGCATATCGGGNCTTCCTGGTCAAGAATG
GNCNCGGNTTGGAGGGGCTGGNNAGGGTGTTTGNAAAAACCCAATGTTTNAGCCCTTGTG
CCTTGCCGGGGACCTTTCAGCCCTGCAATAATGCGTCCCAGAAATAAAATNNTGTGGTCT
TGGTGTNNGAAAAAAAAAAAAAAAAAAAAAA

Sequence 1343

Sequence 1344

Sequence 1345

Sequence 1346

Sequence 1347

CCCTTAGCGTGGTCGCGGCCGAGGTACTTTTAACTATTTGTTTCTTCTACGATAATTGGT TTGTTGTGACTTTATCTACCTAGAGTAAATTTTGGCAATTTGCATTTTTCTCAAAATAGT TTTTGAATTTATTGTGTAAAATTGCTCAAAATAGTCAATTTAAACAAATTTCCTGTTTTA CTATTTCCCCCTTGTCATTTAAATTTTTGTATTTGTGCTTCCTCCCGCGTACCTGCCCGG

Table-1

GCGGCCGCTCGAAAGGG

Sequence 1348

Sequence-1350

Sequence 1351

CCCTTTCGAGCGGCCGCCCGGGCAGGTACAAGTATTATGTATCCATAAAAATTAAAAAAT CTTTAAAAATGCATATGGGGGTCAGTAGGTAAAAAGAAAAGAGAACCAAGAGAGCTGCAGC GGGGAGCACAGCTTGCTTTAAACATGAGATCCAGCTCAGTGATCATGCGGGGGAAAAGGC CCGGCATTGCTGGAACTCCTAATATTTAAAAAGATGATGGAAACTTGAAATTTTATATTT AATCTTCTCATTTTTAAGTGTTGGCAATGTATTGAAGACTTTGAAGCCTCTCTGCTGGTC AAACAAGATGTATCTGTAGGCTGGATTTTAAATTTTAATTTGCTTTGATTCCTGCTGCTCCTGCTCCAAAAAAACTCTCAATGGCTCCCCCTGTCTGCAAGGNAAAAGTCC

Sequence 1352

Sequence 1353

CCCTTTCGAGCGGCCGCCCGGGCAGGTACATTGGTTTGATCTGGAAAGGCAGGACAACCC
AAAGCGGGCTGGGACAGTTCCAAGTTATAGGAGGTTTTCCAATTGGCAGTTCGTTGAAA
GAGTTTATCTTAAGACCTGGAATCAATACAAGGGAGTGTGTCTGGGTTAAAATAAAGGGG
TTGTGGAGATCAAGGTTCTTATTAGGCAGATGAAGCCTCCAGGTAGCAGGCTTCAGAGAG
AATAGATTGTAAATGTTTCTTATCAGACTTAAAAAGGTCCCAGACTCCTAGTTAATTTTC
TAGTGGATCAGGAAAAAGACCTGGACAGGGAAGAGG

Sequence 1354

Sequence 1355

CTCATCATTTAAAATGACATGGGTGTCGGTTTTGTAGATCTTTGGTTTTTTTGTCAGGTT TAATTTCAGTTAACAAAATGTAAAACATGACATTCCCTGCAGATATTGTTGTATACCAGT ATGGTTTCTTCTTTTAAATGTTTTTGGCCATCAAGTA

Sequence 1356

CCCTTTCGAGCGGCCGCCCGGGCAGGTACAACACTTTAAAAAGTGAATTTTAAGCTATGT GAATATCTCAATAAAAACATTTTTTAAATAAAAACAATTCCCAAAGGCCTGGAAATTCAG GAACATAATTCAAAATAATTTATGGATCAAAAAATAAATCATATAAAGATCTGAGAACTA CAATGTAAAAATATAGAAAAAAGTCATAACAATATTAGAAAAAAATTTGAGCTGGATAAC AAAAATAGTACCTCGGCCGCGACCACGCTAAGGG

Sequence 1358

CCCTTAGCGTGGTCGCGGCCGAGGTACTTACATGGAAATAAGTGTTAAGAAAAGGATTGC TTATTGGTAGCATATAGATTTAGAGTCAGGAATGATGGTGATTTCAAACAACCACAGAAC GTCCACATGGGTGGCTGGCCAGGATAGTGACACCTTTGCTTTCTAATGGCTTAGTGTACC TGCCCGGGCGGCCGCTCGAAGGG

Sequence 1359

Sequence 1360

CCCTTAGCGTGGTCGCGGCCGAGGTACTATAGCTTCAGTGTGGTTTAGTAAACTTAGCCT AGGAGGCCAAGATGTCTCCCTAAAACTTAGTCTCTGTCCTATTTACTTTGTTTATAAGAC TGTGACCTAACTTCCCATGGCCAATTCAATCGACTAGGTTATCTTTACTCCAATGGACCC AGGCCTTTTCCCAGTCAATCCATGTCCAACCCTTCATCTCCAGCGTGATCACTCAACTCT TCAACATGCCTGCTTGCTGCAGGNTTAAAACCACACCCACCATCCTGTGCTTNCCCCTTA ATCGCCCATTGATGCCCCGCANGGTAAAATAAAAACTA

Sequence 1362

CCCTTAGCGTGGTCGCGGCCGAGGTACATTTAAAAGGTGATGCTAATACTTTAAAATGTC
ATAAGATATAGATTNAAAAAGCATTGTAAATTGTATACTAGCAAAAGTCGTCTANATGGC
ATTGNACAGGACATAATGTAAAACAT

Sequence 1364

Sequence 1365

Sequence 1366

CCCTTTCGAGCGGCCGCCCGGGCAGGTACAATATATTATGAAGCATGACCACTTTATTTT
GAAACTTAGCAATTGTATTGCTGGGGTTTATTGTATCTGTAGCATGTCACTGATTATTTC
AGTTAGTTTTATAATGATTTTTAAAAAAACATATCTATTTGGAATAAGATACAGCAACAAT
CATTGCTATTGACTTGTTCAACCCCTTAGTTACACTGTATGATCAACATATAACAAGATA
CAGTGGGAATGGCCCATACAGTATATTACTGTTGTGTGATGATTGGCTTTGGAAGCAGTT
TGATTTTGAAATGCTTTGATATTCTAATTGACATGGAACAA

Sequence 1368

Sequence 1369

CCCTTAGCGTGGTCGCGGCCGAGGTACAGCTTTCTCTGCCTCACGTTTCAAGCTTAATGC
ATCATCTTAATTCATCTTTCGACATCTATTTCTACTACATGCTGCTCTCTTTCTCTATCT
TACATCTCCCAGAATGTTTTATTTCAACAAATTGCTAATCTGTGCCAGGCATTGTTATTA
GCAAAATGATAAGCCCTGCATGTAGCAAAGTTCCTGCCTTCACTTGCATATGCATTAACA
AGCTCTGATTAGTCCCACTTAAAAACCATTTGTTCCCCCGTCATGCAGAACTCCATTGCC
AAGCCACACACACCCCCAGCCAGTAGGGTAGCAGCTNCCTGGAGCAAGGGA
Sequence 1370

Sequence 1371

Sequence 1373

CCCTTAGCGTGGTCGCGGCCGAGGTACAGCTATTCTCAATGGATAATTCTATAAAATATT

TAAAGAAGAATCAACACCAGTTCTCCACACTCTCCTCAGAAGAAGAAGAGGAGGATGGAATA
CCTTCCCCCTTAATTTATGAGGCCAATATTACCCTGATGCCAAATCCAGACAAAGATATT
GTCCCCCAAAATAAAACTAACGATCATAGATAAATACCCTCTTATAAATTTAGATGCAAA
ATCTTAAGCAAAATATATTAGCAAAATGGAATTCAACAATGGAATAAACCTATTATACCA
CCAAGTGGGAATTTATTTCTAGCTATTGCAAGACTAGCTTGGACCTTTTGAAAATTGATT

Sequence 1374

Sequence 1375

CCCTTTCGAGCGGCCGCCCGGGCAGGTACGCGGGGGATATGATTGGCCGGCGAATCGTGG TTCTCTTTTCCTCCTTGGCTGTCTGAAGATAGATAGCCATCATGAACGACACCGTAACTA TCCGCACTAGAAAGTTCATGACCAACCGACTACTTTCA

Sequence 1376

CCCTTAGCGTGGTCGCGGCCGAGGTACCATATAAAAACATTCCAGTGTCAACAGCACTTT
AAATTTTCACAGTAATATATGAAAGAACAGACTTTACACTTCTTTTGCACAGAATTATCT
TTGCTATGTTTTAAAATACTTAAGAAATAGAAACAAATTTAAGAGAGTTTTCACCTTTAA
AATTTATTACATAAGCTATACACCACAAAATGAAATCCTAGTTATAAAAGATGCATCTAGA
AGAATAATTTATAAATAAACCAACAAAAATGAGAATGTGTATCTCCAGGAATATAAATATA
TTTAAATGTTCTCAGTGACTGGCATTGCTTTATGCATTACATAAGATAGTATCTCCCGC
CCGGCCGCCGCTCGAAAGGG

Sequence 1378

Sequence 1380

CCCTTTCGAGCGGCCCGCCCGGGCAGGTACAGTAATTTTGGAAACCTCTTTGATGTCTGG CTTATAGAAGACACCTGGGTTCTTATATCTGCTTCTGAATCGATCTATTGTAATGNNGTT ATTTTGGCTGAAGTATGTTGAAGAAAATACTACCTTACAAAGATATGTATTTTCA

Sequence 1381

Sequence 1383

Sequence 1384

Sequence 1385

Sequence 1386

CCCTTGAGCGGCCGCCCGGGCAGGTACGAAAGCAGTCATAGACAGTATGTAAACAAATGA GTGCAGNTGTGTTCCAATAAACCTTTATTTACAAAAACCGGCAATGAGATGGATTTGGCC

TATGGGCCATCATTTGCAAACTCCTGATTTANAACAACCCTGCCATGAGTTCTTCCACAG GCTTGAAAACAGGAAGCAAAATACAAAAAGTACCTCGGCCGNGACCACGCTAAGGG Sequence 1387

Sequence 1389

GGATATCTGCAGAATTCGCCCTTCGAGCGGCCGTCCGGGCAGGTACTCTCAAAAGCTAGG GCTGCTGACTGAGCANCTACAGAGCCTGACTCTCTTTCTACAGACAAAACTAAAGGAGAA GACTGNACAAGAGACCCTTCTGNTGANTACCCTTGCCAAGNTGTCTGCAAATGCTTNGCC GANTTTTCTACTGAGTT

Sequence 1391

Sequence 1392

Sequence 1393

CCCTTAGCGTGGTCGCGGCCGAGGTACAACTGCCCTACATTTCTGCCTAAAGGCAATTTC

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Table 1

CAGACTACACANACNGAGANGAAATGCAAATAGAGCCCANCTGTCTCTGAAAAGAGACAA **GAGAAATCTAATTTCT**

Sequence 1394

TCTGTGTTGCCCAGGCTGGAGTGCAGTGACTATTCATAGGGGCAAGCATTATGCACAACA GCCTCAAACTCCTGGGCTCAAGTGATCCTCCTGCCTGAGCCTCCCGAGTAGCTGGGACTA TAGGAGTGCACCACGCCAAGCTGGCATTCTCTGTTTTCTTATTTCCTGATTCTACTT TTAGCTTTCTTAATATGCTGATATGTTTTGTTTGGTATATCATATATTAAAAAAACAGTT CATCTCATCCCCATCATTNTATCTTTAAGAAGCCCCCCAAACCATTTTACACATTTAGGN AAACAATGGGCAGGCAATAAGGNTAGNGAACATTCCATAGCCCTCTTTTGATAAACCACA TCCTTACCTGNTTTTACTNGTNAAAAAGGAATTNTACAATTGGGTTTCTGGCNCCCTAA AAATTCAAAACCTTAACTTTTTTTGGGAGGGAGTTGGGNGGATNCCAATAAAANGCCNA TNNTTTTTTGAAAATCNTTGAATGGAATTGACCTGGATTGAATTCCCATTTAAAGTCTT TTACTTTATTANGGTTTTNAANACTTTATTTTAAAAATTTTTCCTTAAGAACTTNAAAAA CNNCTTGGGGTTCTTAAANNTTAAGAAAACNNAAAATTTTNTCCAAAATTTTAAAAAA Sequence 1395

CCCTTAGCGTGGTCGCGGCCGAGGTACNCGGGGGCGGAACTGGGGTTGCGGCGTCTAAGT <u>GNAAGATGTTCTACCATATCTCCCTAGAGCACGAAATCCTGCTGCACCCGGGGGTACTTCG</u> GCCCCAACTTGCTCAACACGGTGAAGCAGAANCTTCTTCACCGAGGTGGAGGGGACCTGC ACAGGAAGTATGGCTTTTGTAATTGCTGNCACCACCATTGACAATATTGGTGCTGGGTG TGATCCANCCNGGCCCGAGGCTTTGTCCTTNATCCAGTTAAGTACTAGGTGACTTGATGA **AAACTACTTTGTTGAGGCTGNTGGAGCAAAGGNGCAAACTAACTATTNNTGCAATNAAAA** NTAAAAAGTGACACATTANTAATCCTTNAAAGGAAATTCAATTTTCTTTTTTTNCTGGNN CTTCNTTTTTGAANCATGGTTATGGGAAACCTTAAGCCTGTNTTAAANNGGAGTATTCTT TTANTTAAAANNTGNAAAANNGCCTTTTTNTACTCCTTTTAAAAAAAATAGNNATTTNTTA AATNCAATNGAAATTGNNTNGGGGAAAAAA

Sequence 1396

TGATTCTTTCTAGAGATTTTTTCTCATGGCTACTATTAGATCAGGAATGGGTGATTGGGA GATTATTAGATCTAGGTTAACTTCTACCACTTTACCCTAATACATAAAACTTTTTCCTAA ATAAATGATGGAAGGAATNATACTTGGGTTACCTGGCATTATTTTCAGTAAGAAAAAAGC TTTACTAACCACTACATTTATGGAAANTTGTAGGGGTAAGTATTTTATAGGTCATAAAAA AACACCATAATATTAACGAATCTCATTTTTCTTTTAAATGTGAATTAAAATCCTAACAGG CATTCTTTTATAAAAATGACCCATAGGCTAAAAAT

Sequence 1397

CCCTTTCGAGCGGCCGGCCGGGCAGGNACATGTGTCGCCTTANATCATNCAACCTTTCA GTCACTACTATGTGTAAGGCAGTCTGCTAGGTTCCAAGGAATGTGGGGGCTAAGTGAATAA GATGCAGCTCCTTACTTTAAGTCTGGCAAGGAAGATGCATTTTTTACNTAACTTCCACAG TGCATTGTGAAACATGCCATATGGAAGGGATAAACACTGATGACAAAGTNATTGCCAACT TTTACTAATTTTGTCAAATTTTAAAAGAGGTACCTTTGGCCNCGACCACCTTAAGGGCGA **ATTCCAGCACACTGGCCGGC**

Sequence 1398

CCCTTTCGAGCGGCCGCCCGGGCAGGTACAAGTTGTAACCCCTGATTCTGTGAATGTGAC CTTTCTGGAAGTACGGTCACTGCAGATGTAATTAAGTTGANGATCTCAAGATGAGATCAT CCTGGATGCAGGATGGGACCTAACGATAATGGCTGGTGTCTTTATAAGAGAAAGGAGAAN GANATTTNAGACNCANACATGCANATAGGAAAGCCNCNTGGAGACGGAAGCCAAANCCTA GAGTGNTTAACCTACAA

Sequence 1399

CCCGCCAGTGTGATGGGATATCTGCAGAATTCGCCCTTAGCGTGGTCCGGCCGAGGTACT TACATAGATCTAATTTATACAGTGAGTCAAGACGTAGAATAAATGCTCCCACATAGCCTN ATGGCTATTTCCTAAGTTGTAAAGTNCTGCATTTATAANTGCCANTGTTGNAAGGTGGTG TTTCTANACCTTCCCTGATGCGATTTTA

Sequence 1400

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Table 1

TNCAAAAAAAAAAANTNNNAAANTNNNAGGGNAAAANNTTTTTTNAAAAANNAAAANAA TAAAA

Sequence 1401

CCCTTAGCGTGGTCGCGGCCGAGGTACTCAATCAGATGTTAAATTCTTCAATGTAAATGC TGGGCACAGTAGTTACACAATAAACGCTAAAAGCCTGATTTAACAACTGTATATAAACAA **ACTACTTTTATGTGACTACTATACCTCTGGGCATGGTATTAACCTATCCCAACCAGAGTA** CCTGCCCGGGCGGCCGCTCGAAAGGG

Sequence 1402

CCCTTTCGAGCGGCCGCCCGGGCAGGTACTTTTAAAATATATTTTCTAATTTTGAAAC ATTCAAGCTGCGCATAATGGTTCACACCTGTAATCTTGGCTACTTGAGAGGCTGAGGCAG GAGGATGGCTTGAGGCCAGGAGTTCAAGACCAGCATGTGCAATACAGTGGGACACGTTCT GTATTTAAAAAAAAAAAAAAAAAAAAAAAGGAAGGAAATGTTCAAATACACAGAAAAGTT GAAAGAATATTATAAAGTGAATATCTGCATACTTTTCCCCTAGGTTACCTGTCACCTTGA CATGCCTTCTGAATTGTACCTCGGCCGCGACCACGCTAAGGG Sequence 1403

TTTTTTTTTTTTTTANAANGGTGGTATTNTAACATTTATTAAAATAATGCTGGGGGT TAATANAAACNNCAAANAACCAAANAATTAAAATGCAAGCTNTTTAAAATCCCAACT Sequence 1404

CCCTTTCGAGCGCCCCCGGGCAGGTACTTTAATTTTTTCTATTTATGAATTGCTTATT TGCTTTGCTCATTTCTCTAGTAAGCTGCTTTTGTTAATTTGTGAGTAATTTATTCTAGGT **ATCAGGCCTCTGGCATGTTTCAAATTTCCTAGTGTCTTTGTCAAAGAGAAATTTTTAACT** TCAACATAAGTAATTTGTCATCTTTGTCCTTTAGTTTTTTGTGATTTTAAGGACATAATAT CTATTACTTTAAAAGTATTGAAAGCTGTATGTATATTCTTCAACTAGCCACCTTATTTCT GTTCTAGAGTTTGAATTTCTTAACTCCAAAAACACACAATAATTTTTAAAGTCTTGATCA AACTCTGTTATCTTCTGCATAGTCTATTTTTCAGCATTCCATTAAATGAATTGAGAAAAA GGAGGTACCTCGGCCGCGACCACGCTAAGGG

Sequence 1405

CCCTTTCGAGCGGCCGCCCGGGCAGGTACCTGGCTACAGTAAATGCTCAAGGCCCTTTGT TATTATTTCAGATGGTCAAGAATAAATGTTTTTCAAGGATCTTCTTTTTGTAGACAACTG TGTAGTCACAGTTTAGAGTCGTAAATTATCTGCCTGGCAAGATACTTTTTAAAATTAAAA TGTAAAGAACCTGAGGGGATTCACTCCCAAATGTTTATGGACAAACTGAAAGGGCATTTA CACAGATATTACCTTCTACATTTATGTGAGAAAGTGCTTTAAGACACTGTACCTCGGCCG CGACCACGCTAAGGG

Sequence 1406

CCCTTAGCGTGGTCGCGGCCGAGGTACATACAATAGAGTATTATTCAGCCTTAAAAAGGA TGAAAAATCCTGACATGCTAAAATATAAATGAATGTTGAGAACATTATGCTAAGTGAAA TGAGCCCATCTAAAAAGGCAAATACTGTATGATTTCACTTAACTGTGATATCCAGAGTAG ACAAATTCATAAAAACAGAAAGTAGAATAGAGGTTTCCAGGGACTGGGAGTTACTTGATA TAGAGTTTCAATTTTGCAAGATAAAAGAGTTCTGGATATTGGTTGCACAGCAATATGAAT ATACTTAACACTACTGAACTGCACACTTAAAGATGGTTAAGATGGTAAATTTTGTTAGGT GTTTCTTACCACAATTTAAAAAAAATTTTAATTAAAGGAATTAAAAAAATTTACAAAATAC TATTCATCATTGNGGTTTNCAGTTTATATTCAACACAGCAGTATTTCAGGTATAGTAATT **AACTTACTTT**

Sequence 1407

CCCTTAGCGTGGTCGCGGCCGAGGTACTAGAAGACCTTCCTCGCCACTCTCTCCACATGA GAGAGTCAGCTGCCCTTTCTCCTGTGCCTCTGCAGGAAGAACTCTCTTGCATGGCACATC TCAGCTCCTCATTGAGGGATAGTTTTCTTTGATAAGAAACCTGGAGTCCATTTACTCTGA

Table 1

CCCTTAGCGTGGTCGCGGCCGAGGTACTATGNNTNTNNTGTTNCTATTACNNTTAATCCT TNCTTTNGTTGTGAGCTTGTNAATGCATGTNGAGGATNTGNAGCACTGTCCACTGAGTCT CTGTG

Sequence 1410

Sequence 1409

Sequence 1411

Sequence 1412

Sequence 1414

CCCTTAGCGTGGTCGCGGCCGAGGTACGCGGGTCAATTATCTTTATCATAAACATTTTAC

Sequence 1415

Sequence 1416

Sequence 1418

CCCTTAGCGTGGTCGCGGCCGAGGTACACATAAGTTCATTCTTGGCTTTTTAAATTTTAT
GGAAAGACTAAATACATTTGTGTCTATTAATCAAAATATGAATTTAGAAGGAAATAATTT
TGTGTAAAAAATTGTATGTGGTAAAATTTTACCTAATTTAAAATTGTTGTTCCATAATTT
TTTTAAAAAGAAAAATTACAGAAATAAGACTTGGGGGGTGGGGGTTGAAAAGGTGGTGAAA
GAACTAAACAAGTAGAAGAGGATTTCTAAAGCACTGGTCTCATGAAAAAAGTTTCATGTG
TGACTGGGTCCACTGAGATTGAAAAGAAATTGTTTATACGATATTCTAAAAATTAAATGT
TGCTGTCAGGGATGACATGATACAGGACCAGAGTCTGTGTAAACAACAAAGTTTTCTTAA
AGTATTGATACACGCTTTTAAAAATTGCAAGAGGTTTTAAGTTTAATTCAAAAATCTGTT

220

Table 1

TAACAGCCATTTTGTACCTGCCCGGGCGGCCGCTCGAAAGGGCGAATTCCAGCACACTGG

Sequence 1420

Sequence 1421

Sequence 1425

PCT/US00/33312

221

Table 1

CCTTCACCCTTTTGGG

Sequence 1426

CCCTTAGCGTGGTCGCGGCCGAGGTACGCGCTTCAGGGCCCTGTTCAACTAAGCACTCTA CTCTCAGTTTACTGCTAAATCCACCTCGACCCTTAAGTTTCATAAGGGCTATCGTAGTTT TCTGGGGTAGAAAATGTAGCCCATTTCTTGCCACCTCATGGGCTACACCTTGACCCCCGC GTCCTGCCCGGGCGGCCGCTCGAAAGGG

Sequence 1427

Sequence 1428

²²² Table 2

>Sequence 1

>Sequence 2

TTTTCTTAGCTCATCGCGGGCGGCCGGAAGAGCAACCGAGATGAAGGTGA AGATGCTGAGCCGGAATCCGGACAATTATGTCCGCGAAACCAAGTTGGAC TTACAGAGAGTTCCAAGAAACTATGATCCTGCTTTACATCCTTTTGAGGT CCCACGAGAATATATAAGAGCTTTAAATGCTACCAAACTGGAACGAGTAT TTGCAAAACCATTCCTTGCTTCGCTGGATGGTCACCGTGATGGAGTCAAT TGCTTGGCAAAGCATCCAGAGAAGCTGGCTACTGTCCTTTCTGGGGCGTG TGATGGAGAGGTTAGAATTTGGAATCTAACTCAGCGGAATTGTATCCGTA CCT

>Sequence 3

TTGTCTGTTGCATCGAGCCGGGCGTNCGGAGAGGAGTCCTTTACTTAGAG
TCAAGCTGAAGGAGCATCACAACCCCAAAGACTGTTATGTTGTAAAATTT
AGGCTGTGTTTTAATAATACTGATGATGATGATAGGATGAAATAGTAATTTAT
TGATTACTATATCTACTATATGTCCGTAAGATAGCAGGGTCTTTATACTC
GGAATCTCATTTGATCCTCATAGTTTTTATTGGTTATTATTATCCTCATT
TTACAGATACAGAAACTGAGGCTTCAGAGAGGCTGTGTAATCAAGAGTTT
GTATGCCTTTCATCTGAGGAGGTTGAGGACAATCCCAAGTTAGAAAAATA
AATGTCTTTAGCATTATTTTTCCTTAATGTTTAGAATATTAATAAGTTAC
TCAGATAATCTATTGGAATTTCTTCATGGCAGGGGGAAGAGGCTAGAGTT
GGTTTTTGGTTTTTTGTTTTTTGGCACAGGGTCTCACTCTGTCACCCAGGCT
AGAGTTTTGTGTTGTTTTTGGCTTACCGAAGCTTCAACCTTCTGGGGT
TCTACCTCAGCCTTCCAAGTAGCTGGGACTACAGGGTGCATCAACACGC
CCCCGTGTACCTCGTCCGTTTTAGAAATG

>Sequence 4

>Sequence 5

GGCGGCCGCCGGGCAGGTACCATGGAAACCCACTCTTTCATTGAAAGGA

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>Sequence 6

>Sequence 7

GGGCGATTTGCAGGCCTCTCCGCGGTGCGGCCAGGTACGGATCAATTCC
GCTGAGTTAGATTCCAAATTCTAACCTCTCCATCACACGCCCCAGAAAGG
ACAGTAGCCAGCTTCTCTGGATGCTTTGCCAAGCAATTGACTCCATCACG
GTGACCATCCAGCGAAGCAAGGAATGGTTTTGCAAATACTCGTTCCAGTT
TGGTAGCATTTAAAGCTCTTATATATTCTCGTGGGACCTCAAAAGGATGT
AAAGCAGGATCATAGTTTCTTGGAACTCTCTGTAAGTCCAACTTGGTTTC
GCGGACATAATTGTCCGGATTCCGGCTCAGCATCTTCACCTTCATCTCGG
TTGCTCTTC

>Sequence 8

GAAATGTTAGTCCACTCACGTGGCCGAGGCGACCGGATGAGCAACCGAGA TGAAGGTGAAGATGCTGAGCCGGAATCCGGACAATTATGTCCGCGAAACC AAGTTGGACTTACAGAGAGTTCCAAGAAACTATGATCCTGCTTTACATCC TTTTGAGGTCCCACGAGAATATATAAGAGCTTTAAATGCTACCAAACTGG AACGAGTATTTGCAAAACCATTCCTTGCTTCGCTGGATGGTCACCGTGAT GGAGTCAATTGCTTGGCAAAGCATCCAGAGAAGCTGGCTACTGTCCTTTC TGGGGCGTGTGATGGAGAGGTTAGAATTTGGAATCTAACTCAGCGGAATT GTATCCGTACCT

>Sequence 9

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Table 2

>Sequence 11

CGAAAGACCCTATCAGGGGCGCCGCCGACAGCTACGCGGGATTGCTGGC
CTGGTTCTCCAGGGAGCTGAGATCACTGAAGCTGTGGTCGCTGCCGTGAT
GTGGAGGAGGCAGAGCTCAGATAGAAAAGGAGGGAGTGACACTCAAGCTG
CAAGCAGTGACAGTGCCCAGGGCTCTGATGTGTCTCTCACAGCTTGTAAG
GTGTGAAGACAGCTTGCCTTTGATGTGGGACTGGAATAGGCAAAGAGTTG
GTTCCATGCCCTTCCCCTTTGGTGGACCTTGGAAAGAACCCCTGGACTTT
TGTTTTCTGCCAAAAGGGCAACCTGGCAATGATGTTCTGATGGTTTCGTC
GTTAGGGCCATAAATGNTTGTAGGGAGGGTGGGGAGTAAGTAGGAACCCC
GCAATCCGGGAATCGCATCAACCCATAGGGCCCCCTTGATTTGTCTAAAC
GACCTGAACCCCTTGGTTGCCTTCAATTTGACTAACAAATTGTAACCTTA
TTCTCCAGTTTTCCCCAGGAGAACCGGGGGGCGTTGTACCAACCCCCCTT

>Sequence 12

>Sequence 13

>Sequence 14

CTTANNTTGCTGAGACTTCTATCGCGGTGGCGGCCGAGGTACGGTATTCT
CTTAAACAAGAGCAAGCCCATGATGATGCCATTTGGTCAGTTGCTTGGGG
GACAAACAAGAAGGAAAACTCTGAGACAGTGGTCACAGGCTCCCTAGATG
ACCTGGTGAAGGTCTGGAAATGGCGTGATGAGAGGCTGGACCTGCAGTGG
AGTCTGGAGGGACATCAGCTGGGAGTGGTCTGTGGACATCAGCCACAC
CCTGCCCATTGCTGCATCCAGCTCTCTTGATGCTCATATTCGTCTTTGGG
ACTTGGAAAATGGCAAACAGATAAAGTCCATAGATGCAGGACCTGTGGAT
GCCTGGACTTTGGCCTTTTCTCCTGATTCCCAGTATCTGGCCACAGGAAC
TCATGTCGGGAAAGTGAACATTTTTGGGGTGGAAAGTGGAAAAAGGAAT
ATTCTTTGGGCACGGGAGGAAAATTCATTCTTAGTATTGCATATAGTCCT
GATGGGAAATACCTAGCCAGTGGAGCCATAGATGGAATCATCAATATTTT
TGATATTGAACTGGAAAACTTCTCGCATACCCTGGAGGCCATGCCCC
ATTCGCTTCTTGACCTTTTCCCGGGCTTCCAGTTCCTTGCATTGTTTAGA
TGATGGCTACCATAAGATCTATATGGCC

>Sequence 15

GAGGTACTGCTCCCTGCACGATCCAGTCAGCCCCTGCCCGGCTGGTTATG
TAACAAACAAGTCTGTGTGTGTGGAGTGTTGCAGGACGAGTGGAAATG
ACTGTTTCCAAGTTCATGGCAATTCAGAAGGCCCTTCAGCCAGACTGGTT
CCAGTGCCTCTCCGATGGAGAAGTATCTTGTAAGGAAGCAACTTCCATAA
AAAGGGTCAGAAAGTCTGTTGACCGATCACTTCTTTTCTTGGATAACTGT
CTGCGGCTGCAGGAAGAGTCAGAGGTTCTTCAGAAGAGTGTGATCATTGG
AGTGATTGAAGGTGGAGATGTGATGGAAGAGGGCTGAGGTCAGCACGAG
AGACAGCCAAGCGGCCTGTGGGTGGCTTCCTTCTGGATGGTTTTCAAGGA
AATCCAACAACCCTGGAGGCTAGACTACGCTTGCTGTCATCAGTCACTGC
AGAGCTGCCGGAGGACAAGCCAAGGCTCATATCTGGTGTTAGGCGGCCAG
GGGAGGTGCTCGAGTGTATTGAAAGAAGAGTGGGACTTATTTGAGAAGTT
TTTCCCTTATCAAGTAACAGAGCGGGGGTTGCCCTGACTTTAAGTTTGT

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Table 2

TACCAGCCCAATTCCGAGAGACCCTCTCCATCAAAGG

>Sequence 16

>Sequence 17

>Sequence 18

TGGCGATCGAGACCTNACCGCGGTGGCGGCCGAGGTACGATTCTACTGTT
TTGTCTTCTAGGATCAACTCGGTCATTACCACAGCTCAAACCTGCTTTGG
GACTCCCTCCCACAAAACTGGCTCCGGATCAGGGAACACTACCAAACCAA
CAGCAGTCAAATCAGGTCTTTCCTTCTTTAAGTCTGATACCATTAACACA
GATGCTCACACTGGGGCCAGATCTGCATCTGTTAAATCCTGCTGCAGGAA
TGACACCTGGTACCTGCCCG

>Sequence 19

>Sequence 20

>Sequence 21

TGGGGAACGTTGTTCGACTCCGGGTGGCGGCCGAGGTACGATTCTACTGT

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Table 2

TTTGTCTTCTAGGATCAACTCGGTCATTACCACAGCTCAAACCTGCTTTG GGACTCCCTCCCACAAAACTGGCTCCGGATCAGGGAACACTACCAAACCA ACAGCAGTCAAATCAGGTCTTTCCTTCTTTAAGTCTGATACCATTAACAC AGATGCTCACACTGGGGCCAGATCTGCATCTGTTAAATCCTGCTGCAGGA ATGACGCCTGGTACCTGCCCG

>Sequence 22

>Sequence 23

>Sequence 24

>Sequence 25

TGGGGNATGTATCAGCTCCACCGGGTGGCGGCCGCCCGGGÄAGGTACGCG
GGAGGCACATTCTTTTCTACGTGAAGAGTTTTGTAAACTGAACTTTGTTT
TCAGTTCCGGCTCCAGCCATCCTGGGGTAGCTTGCCAATAGATGAATCCC
ACTCGTTTGACCCATGACGCTCCTTCTTTTCATTTCTCCCTCTTTCCCCA
CAGCAGTGCATGTCCACCATACCACCTGAGAGTCTGTGGAATCTAATTTT
CTGTTATACTTCTTTCCTTACACTCATTTTCCTGTCTTTATTATGATAGT
CTAACTTTTTCTCTCAAAGGGATAGCTGCCTTGCTTTCATGAAAACACA
CTTTTCTAATGGGGAATTAAAAAGAAGGCCTTTCCATTTTTAAGCCCCATG
CCTTGACAGAATTTATTAATAAATAGGGCCTTTCAAAGGGGAAACCGTTC
CAACATGCCTACAGAATGTTTTATAACCATGAAATATTTACTGGCGTTAA
GTCCAAAATGCTGACTATCCTGGTCCGTATCCTTTCGACCACTGTTAATG
TATAATTTTGCAGGTGAATGGTC

>Sequence 26

TGGGATGTGCCTCATCGGGGGCGGCCGAGGTACGGATACAATTCCGCTGA

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GTTAGATTCCAAATTCTAACCTCTCCATCACACGCCCCAGAAAGGACAGT
AGCCAGCTTCTCTGGATGCTTTGCCAAGCAATTGACTCCATCACGGTGAC
CATCCAGCGAAGCAAGGAATGGTTTTGCAAATACTCGTTCCAGTTTGGTA
GCATTTAAAGCTCTTATATATTCTCGTGGGACCTCAAAAGGATGTAAAGC
AGGATCATAGTTTCTTGGAACTCTCTGTAAGTCCAACTTGGTTTCGCGGA
CATAATTGTCCGGATTCCGGCTCAGCATCTTCACCTTCATCTCGGTTGCT
CTTC

>Sequence 27

>Sequence 28

TGGACTGTGCGCCTTTCCGCGGGGCGGCGAGGTACTCAGTTTGCTTATC
TATAACATGGGATAATATTAGTAGCTACATCGTTGTTATGAGGATCAAT
ATCTGTAAAGCTCTTAGAACATGCATTTTTCTTCTACTAAATTTTAAGGT
CTGGCAGGCGCGGTGGCTCACACCTGGAATCCCAGCACTGTGGAAGGCTG
AGGTGGGGGCAGTGGGAGCGAGGGGTTGTTACTACTCCAATGTAACTGC
TTTCTCAGAAATTAAGGCAAAAAGTCTTACTGACCATGTAAAGGAAATCC
AACAATTATAAACAGTCTCTGCCTTTAAGGAGCTTATAGTCTAGTTAAGA
AACCAGACTTAAACATATGAAAAGTTAAACATTGGCCAGGCACAGTGGCT
CATGCCTATAATCCCAGCACTTTGGGAGGCCAAGGCAGGAGATCACCTG
AGGTCACGAGTTCGAGACCAGCCTGACCAGCATGGAGAAACCCCATCTGT
ACTAAAAAATACAAAACTAGTTGGGCATGGTGGCGCATGCCTGTGATCCCA
GCTACTTGAGAGGCTGAGGCGGGAGAATCACTTGAACCCGGGAGGTCTAG
CGGCCGACCGGCCAGGCCGGGAGATCACTTGAACCCGGGAGGTCTAG

>Sequence 29

TGGATTATGTTGAGCTCCCCGCGGTGGCGGCCGAGGTACTCAGTTTCCTT
ATCTATAACATGGGGATAATATTAGTAGCTACATCGTTGTTATGAGGATC
AATATCTGTAAAGCTCTTAGAACATGCATTTTTCTTCTACTAAATTTTAA
GGTCTGGCAGGCGCGGTGGCTCACACCTGGTAATCCCAGCACTGTGGAAG
GCTGAGGTGGGGGCAGTGGGGAGCGAGGGGTTGTTACTACTCCAATGTAA
CTGCTTTCTCAGAAATTAAGGCAAAAAAGTCTTACTGACCATGTAAAGGAA
ATCCAACAATTATAAACAGTCTCTGCCTTTAAGGAGCTTATAGTCTAGTT
AAGAAACCAGACTTAAACATTGAAAAAGTTAACATTGGCCAGGCACAGGG
GCTCATGCCTATAATCCCAACACTTTGGGAGGCCAAGGCAGGAGGATCAC
CTTGAGGTAAGGGTTTCAGACCCGCCTGACCACATTGAGAAAACCCCTTT
TTTCTTAAAATCCAAACCTGTTGGCT

>Sequence 30

TGGGGATGTTGCAGCTCTGTCCGCGGNGGCGGCCGAGGTACTCAGTTTCC
TTATCTATAACATGGGGATAATATTAGTAGCTACATCGTTGTTATGAGGA
TCAATATCTGTAAAGCTCTTAGAACATGCATTTTTCTTCTACTAAATTIT
AAGGTCTGGCAGGCGCGGTGGCTCACACCTGGTATCCCAGCACTGTGGAA
GGCTGAGGTGGGGGCAGTGGGGAGCGAGGGGTTGTTACTACTCCAATGTA
ACTGCTTTCTCAGAAATTAAGGCAAAAAGTCTTACTGACCATGTAAAGGA
AATCCAACAATTATAAACAGTCTCTGCCTTTAAGGAGCTTATAGTCTAGT
TAAGAAACCAGACTTAAACATATGAAAAGTTAAACATTGGCCAGGCACAG
TGGCTCATGCCTATAATCCCAGCACTTTGGGAGGCCAAGGCAGGAGGATC
ACCTGAGGTCAGGAGTTCGAGACCAGCCTGACCAGCATGGAGAAACCCCA
TCTCTACTAAAAATACAAAACTAGTTGGGCATGGTGGCGCATGCCTGTGA

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Table 2

TCCCAGCTACTTGAGAGGCTGAGGCGGGAGAATCACTTGAACCTCGGAGG TCGAGCGGNCGCCCGGCAGGACGCGTGGGATGN

>Sequence 31

GACTGATGTCGACTCCCCGCGGTGGCGGCCGAGGTACTCAGTTTCCTTAT
CTATAACATGGGGATAATATTAGTAGCTACATCGTTGTTATGAGGATCAA
TATCTGTAAAGCTCTTAGAACATGCATTTTTCTTCTACTAAATTTTAAGG
TCTGGCAGGCGGGGGGTGCTCACACCTGGTAATCCCAGCACTGTGGAAGGC
TGAGGTGGGGCAGTGGGGAGCGAGGGGTTGTTACTACTCCAATGTAACT
GCTTTCTCAGAAATTAAGGCAAAAAGTCTTACTGACCATGTAAAGGAAAT
CCAACAATTATAAACAGTCTCTGCCTTTAAGGAGCTTATAGTCTAGTTAA
GAAACCAGACTTAAACATATGAAAAAGTTAACATTGGGCCAGCACAGTGG
CTCATGCCTATAATCCCAGCACTTTGGGAGGCCAAGGCAGGAAGATCACC
CTGAGTAAGGAGTTCGAGACCAGCCTGACCAGCATGGAGAAACCCCATTC
TACTAAAAATACAAAACTAGTTGGCAATGTGG

>Sequence 32

>Sequence 33

TGCCTGATGTTTGATCGAGTTCCCCGCGGTGGCGGCCGAGGTACGTATGC
ACTTGCTTGCCATCTAAGCAGGGACAATGGCAGTTCATATCATGATGTTA
CTTTGATTCTCTGACCAAACTGGCCTGTGAGCACCCTGGGCCTTTCTTCC
TCTGTCAAAGGCCTTAAGACAGGTTTACCCTGTAGCCAGGCTCTGGAAGA
CAGAGCTGGGTTAAAGCTGGGTGGGAGAAGTGAAAAAGGTCAGGTTTACA
TTCCTACGCGGAAAAGGATGTAACACGGGGCCACATCCTATGCCCAATCC
CAAGGCAGGGAGGCAGGGAAGTGGCTGCCAAACCTGTTGTAGGAGAGTAA
TAAATGACTTGAGAGTAAGCCTAAGCAAACTCAAGTGGGAAGGGGAGTGG
GCTGTAAAATAGTTTAAGAGACTCTCTCAGGAAGTCAGCGTAATTGATGG
GTAAAAAAGGAACAGTCAACAGTTTTCCTACAAGACAGTTTAAAGCAGCA
GTTTTGGGGGAGCATTCCTGAGCCTGGG

>Sequence 34

TGTTACGATGCTCATCGGGGGCGGNCGAGGTACCAGTTAAAGTCTTCTAG
CCTGTATCCCCACTCCTTTTTGCCACTTGCAAATTCGGTAGCCCAGTTAC
CCAGAGGGAGGCATAGGAGGGAAAACGAAGACTGAAAAGGGCTAATATGA
GTTTTGTCTCTTACAATTTATCTGCATCTTATCCTTCCCCCACCCCCCAT
CATTAAATCATTAAACATTCTATCCAAATAGGATGCCCTTCTGTGGAACT
GCATATTTGGAAACCATACTGCCTGTTTAACTTATGCACTCCACTGGGAA
CTTACAGTATCTGTTTCCCACAATACTTGCAGTCATATCAGTTACAACCG
CTGGGTGTGTATTGGTTCAAAAGGACCTACCTACAAGGTTATATCAATCC
ATTGTCCAATTTGAGAGATTTTTTCTGAATCCAGTTAAAATAATTTTTGG
CTACACCTGGGGACACTTCCCAGGACAACAATGACTTGTAGTCTAGTGCC
CAAGAAAGCCAAAAAAGGCCCGGCAACCTTGGTTGCCACCAGATCCCCAAC
AGACAGATTCTAAGGGAGAAGAGAGTTTATCAACTAACACTCACAGG
>Sequence 35

GGTATGTTGGNCANTTTAGAAGCCCTCTCCGCGGTGGCGGCCGAGGTACG GATACAATTCCGCTGAGTTAGATTCCAAATTCTAACCTCTCCATCACACG

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CCCCAGAAAGGACAGTAGCCAGCTTCTCTGGATGCTTTGCCAAGCAATTG ACTCCATCACGGTGACCATCCAGCGAAGCAAGGAATGGTTTTGCAAATAC TCGTTCCAGTTTGGTAGCATTTAAAGCTCTTATATATTCTCGTGGGACCT CAAAAGGATGTAAAGCAGGATCATAGTTTCTTGGAACTCTCTGTAAGTCC AACTTGGTTTCGCGGACATAATTGTCCGGATTCCGGCTCAGCATCTTCAC CTTCATCTCGGTTGCTCTTC

>Sequence 36

CTAATTACTCTATCGATTTCTTATAACTCTCATATGATATATTTGTTCAT CTTATTCATGCTTCAATTAGACGGTTTACTATACTTTTTATTCTACCAAC GTACTTCTCATTATCTACTATAANNTTATAATGANTTTTTTGGCGTCTTC GAATCCCCGTCGAGGTACATTTGTGTTTTATTGTGAAGGGTCCTCAACTG GGATGAAAGTGAAGGCAGGGGGGGGGGGATGTTTGTTTCACGGGGTGAACTT CAATACATTTTATTTAGCACTTATTCTGTGTCTGCTGCCCTGGGATACC AGAGTGAATAAACAGATTAAAAGGTCCCTGCCCTTTTGGAGCCTACAGTC ATTTTGGTGGGTTTTTTTTAAGGTTAGAACAAATGCTTAGGGTGGGAAAG GCCCCACAGAAAGGGGTGAGGGGGAGTTACCTTTCCCCGGTCGGGCCCT TTTCAGGGATTAACCCAGGAAATAAAACCTTGTAGGCAAAAATGGCCCAT CAAAAAGGCCAAGGAACCGTTAAAAAGGCCCCCGTTTTTTGTCCATTTTT TTCATTAGGGTTTCGCCCCCCTTTCCAGGGCTTCACAAAATTTCGCCC CTCTAAATTAAAGGTTGGGGATACCCCCCAGGGCTTTTAATATTCCCCAG **GGTTTTCCCCCTT**

>Sequence 37

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>Sequence 38

>Sequence 39

TGACGTTGATTCAGAGCCCTCACCGCGGTGGCGGCCGCCCGGGCTGGTAC
GCGGGAAAGCAAAACGACAAGCACGCCCTGAGCAGAGCCCCGGGAATTCA
ACCTTTAAGTGGATAACTTGGCTTCTGGTTTGCCAAGGAACCAGGGCATC
AAACAGATGAAACAGCCTATTGTCCATTTCAACAGGATTTTTCAGGAGTG
GGGATGATCTTTCAAATTATCCACAACTTAATTATTTAATATTTTGATAG
TCAATTACCTAAGACACGGCATCGTCACTGACCAATCAGAAGAGATGCCA
GTAGTTGGGCGCAGTGGCAGCACTTTGGGAGGCTGAGTGGACAGATCACC
TGGGGTCAGGAGTTCGAGACCAGCCTGCCTACATGGTGAAACCCCATCT
CTACTAAAAAATACAAAAAATGAGCCAGGCATGGGGGGCACCTGTAATCCCA

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>Sequence 40

Sequence 41

>Sequence 42

TGGTCGGAAGACCAACCGAGATGAAGGTGAAGATGCTGAGCCGGAATCCG GACAATTATGTCCGCGAAACCAAGTTGGACTTACAGAGAGTTCCAAGAAA CTATGATCCTGCTTTACATCCTTTTGAGGTCCCACGAGAATATATAAGAG CTTTAAATGCTACCAAACTGGAACGAGTATTTGCAAAACCATTCCTTGCT TCGCTGGATGGTCACCGTGATGGAGTCAATTGCTTGGCAAAGCATCCAGA GAAGCTGGCTACTGTCCTTTCTGGGGCGTGTGATGGAGAGGTTAGAATTT GGAATCTAACTCAGCGGAATTGTATCCGTACCT

>Sequence 43

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AGATGCTGAGCCGGAATCCGGACAATTATGTCCGCGAAACCAAGTTGGAC
TTACAGAGAGTTCCAAGAAACTATGATCCTGCTTTACATCCTTTTTGAGGT
CCCACGAGAATATATAAGAGCTTTAAATGCTACCAAACTGGAACGAGTAT
TTGCAAAACCATTCCTTGCTTCGCTGGATGGTCACCGTGATGGAGTCAAT
TGCTTGGCAAAGCATCCAGAGAAGCTGGCTACTGTCCTTTCTGGGGCGTG
TGATGGAGAGGTTAGAATTTGGAATCTAACTCAGCGGAATTGTATCCGTA
CCT

>Sequence 44

>Sequence 45

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>Sequence 46

CACACACTCTTCTATTCTGCTCGCTCTATTTCTCGTGTCTTGCACTACGT ATCTTCTTCCTCTATGTTCTTCT

≥Sequence_48

>Sequence 49

>Sequence 50

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>Sequence 51

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AAGTGTTTTAGAGTTGGTGAGTTCCCCGTGCCTTCCAGAACTGAACGCTA
GGAGGAGCAGCCAGTGAGGACAGACGTCTATGCAGAAACATGGGGAACCT
CTGGAAATGACACACTCTCCGGGCACAGGGGGCCCATTCGTCCATCTTGAG
GTGGACTAATCATGGAGATTCTCGCAGGGCCCGCTGCTATCTCAGATTTT

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CTAATCGGAGAAGGAGAGAGATCAACTTCCATCGACTCCAGTCTGTCGGG GGCTGATGAGTGAGGTGGCAGCAGGCATCCGCGTGGATTTGTTGAAACTG GACTTTTTATTGTGCTGAAAGCTGCTTGTTGTGATGATCTCCATACTTTGT AGTTGTTCTATCTGCAGCACTGACTTCCTAAGGGATTCTTCCAACCTAGA AATCTTTTCTTCTATGGAAGGCTTACAATCTTTTTCCTGTGTTTTTCTTG AAATTCTTAAAATTGGGAGGTTTTCCTGGAGTACCTGCCCGGGCGGCGC TCGAAAATAATCTCTCTGCTCCTATCTTAGGTTACTATTCCGGGGAGCCC TGGATACCCCTTTTTTTCTTTCCCACTGGGCCCCTT

>Sequence 52

>Sequence 53

CACTTACTGAATTATGTCTTGACTATTATAAGTTATTACTCTATATTCAT
TGATCTATATAATTTTATATTTTTTTACACCCAACCAAGATGTTTCCTCT
CGTTGGCGCGCCAACGGGGGCTGCCGAAGAGCGACCGAGATGAAGGTGAA
GATGCTGAGCCGGAATCCGGACAATTATGTCCGCGAAACCAAGTTGGACT
TACAGAGAGTTCCAGGAAACTATGATCCTGCTTTACATCCTTTTGAGGTC
CCACGAGAATATATAAGAGCTTTAAATGCTACCAAACTGGAACGAGTATT
TGCAAAACCATTCCTTGCTTCGCTGGATGGTCACCGTGATGGAGTCAATT
GCTTGGCAAAGCATCCAGAGAAGCTGGCTACTGTCCTTTCTGGGGCGTGT
GATGGAGAGGTTAGAATTTGGAATCTAACTCAGCGGAAATGTATCCGTAC
CT

>Sequence 54

ACTTATTACCTACATGTTACTTCTTATCTTTGTTCCTAATATAGTATATG
TTCGAAATATTATATCATATTTTTGATATTATTATTAATAATTTATTA
ATATTACTNNNNNTGGTGTGTTGACCATTTGGAGCCCTTCACGCGGAGGC
GGCCGAGGTACACTGGGAAAATGAAGAACTTAACTACATAAAAATAGAGG
GACAGTCAAAACTTCACAGGGGGGAAATCAAGTTAAATTCAGAGCTGGAT
TTAGATGATGCCATTCTAGAGAAGTTTGCTTTCTCCAATGCTCTATGCCT
TTCTGTAAAACTGGCAATTTGGGAAGCATCACTGGATAAATTTATTGAAT
CTATTCAGTCAATTCCTGAGGCTTTAAAAGCTGGGAAGAAAGTGAAACTA
TCTCATGAAGAAGTTATGCAGAAAAATCGGTGAACTCTTTGCTCTAAGGCA
CCGTATAAACTTGAGTTCAGACTTCCTGATTACTCCTGATTTCTACTGGG
ACAGAGAAAACCTGGAAGGACTTTACGATAAAACGTGTCAATTCCTTAGC
ATTGGCCGAAGAGTTAAGGTCATGAATGAAAAACTTAAGCACTGCATGGA
ACTAACAGATCTAATGCGGAATCACCTGAATGAGAAGAGGGCACTTCGCT
TGGAGGGGAAGATTGTCAATCCTATTACCATAGAAGGAATGGTTGAGCTG
GGACCAGTTTTTTTTTGATCAGTGATACCAAGTGTACTGCAGAGATATTAA
GTG

>Sequence 55

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TCTTCTCTATTCTCATTACTCACGTTATCTCCTTCTATCGTTTCTTGTAC
AGTCGTTTATTTTTTTNGACTNCNNNNNTNNTTGTTGTTGACCTAGCTCCA
CCGAGGCGGCGCCCCCGGGCAGGTACTTTGCAAAGTGGATGCAGCA
>Sequence 56

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TTTCGATTGAGACTCTCCGAGGCGCGGCCGGAAGAGCAACCGAGATGAAGGTGAAGATGAAGGTGAAGATGCTGAGCCGGAATCCGGACAATTATGTCCGCGAAACCAAGTTGGACTTACAGAGAGTTCCAAGAAACTATGATCCTGCTTTACATCCTTTTGAGGTCCCACGAGAATATATAAGAGCTTTAAATGCTACCAAACTGGAACGAGTATTTGCAAAACCATTCCTTGCTTCGCTGGATGGTCACCGTGATGGAGTCAATTGCTTGGCAAAGCATCCAGAGAAGCTGGCTACTGTCCTTTCTGGGGCGTGTGTGATGGAGAGGTTAGAATTTGGAATCTAACTCAGCGGAATTGTATCCGTACCT

>Sequence 57

TTCTTCTCCTCGGTGCATATAATATTTTCCTTTTTTCTTACGGTCCGTGA
GTCTATTTATTGTTTTTATTCTTTTTTGATCACTAATATTATTAANNNNN
NNTNNAATTCTTTGTCGCTGCACGCCGAGGCACCGATCACTCAGTTTGTG
CAAAGGAGAAACGGCCACAGGGAATGGGCGGCGGCTTCACCTGGGGATAC
CTGATGCCGTGTTTGTGGAAGATGTAGATTCCTTGATGAAACAGACTGGC
AATGAGACTGCAGATACTGTATTAAAGAAAGTGGATGAACAGTACCT
>Sequence 58

>Sequence 59

>Sequence 60

GCACCGCACTAGGTGGGATGCTAGCCGGATCCGGACAATATGTCCGCGAA ACCAAGTTGGACTTACAGAGAGTTCCAAGAAACTATGGGGGTGCTTTACA TCCTTTTGAGGTCCCACGAGAATATATAAGAGCTTTAAATGCTACCAAAC TGGAACGAGTATTTGCAAAACCATTCCTTGCTTCGCTGGATGGTCACCGT GATGGAGTCAATTGCTTGGCAAAGCATCCAGAGAAGCTGGCTACTGTCCT TTCTGGGGCGTGTGATGGAGAGGTTAGAATTTGGAATCTAACTCAGCGGA

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ATTGTATCCGTACCT

>Sequence 61

>Sequence 62

TGGGTCGTTGTCTTNTCCGCGGGGCGGCCGCCCGGCAGGACAATGATGGC TGTCAACTTCGTTTGTTTAAAAAAAGACAATTTGAGCAGGACGACCCTCT CCAATCTGGGTAGCATGGTTAGCCTGTGCAGTAACAACGTAGGCTCGGAG GATGGGTACCT

>Sequence 63

TTACTAACCACGATTGGATTATTTACTCTATGATTTTAATTATTGCATAT ATTTAATA

>Sequence 64

>Sequence 65

>Sequence 66

>Sequence 67

GATTGGAGCTCCCCGCGGTGGCGGCCGAGGTACTTGAAGGATAAGAAATT ACTGTGTCAAATTACCCACAAGTTAAATGCCCATGTTCCAGACCTGTGGC TCTTAGTATCAGGCTTGTGATAGAGAAAAGGCTGCTATGAATTCTACTCA GTGTGCTTAGACCAAAGGAAACCACCACAGGGATTTCACAGGC

>Sequence 68

GGGCGGCGCTGACTTGCGCGTTGCGCATGCGGGAACTCGGGCCTGCCAA

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GTGGATGAATGGATGGCGTCACGGCCCGGGGGAGAGCCGGGGTGTTGGAC GGGCCGCTGGTGGCGTTAGCTGGCTGACTGGCTCGGGTGGGCTGCAGGGG GCCGATGGCGGTGGCCGAGTGACTCTGCCTCGAAAGCGGTAGCGCNGAG GCGCCCGGATGGGGGGGGGGGGGGGGGGGGTGGTCGGGGAACGATGCCCAGN >Sequence 69

GGTCCCATTTCATCTTGCACCCGCATACCAGGGATTGTTGCGAAGAATCA
GTTGTGTTATATTGTCCAAATCATCAAAGATACCCTGAGGTAAATTACTT
AGGTTATTATTGGACATACCAGTCGATAGAGCTGCCTTAGATAAGAAAA
AGCATTTGGGGGCACCCGATTGATGTGGTTATCTTGAAGATAAAGCTTCC
TCAGGTTTGTGCCTGGAAGGTTTACTGGTGCAGCAGTCAGGGAATTCCGC
ACCAGGGACAGCTCTGTCAAATTAACTAGGTTGAAGAAAAACTTTGTCACC
TAAACCATGATTGTTCAACAGGTTTCCATCTAGAACCAGGCGTTTTAGAC
TCCAAGCGTAGTTCTTCTATAGTCCTGGGCAAACCCCAGGGAATTGTGCT
AAGGTGATTACGGGACAGGAAAAGCAGTCGGAGATAGTTGCTCTCGGA
ATGCTCCCTCTTCTATGCTAACTGCAGAGACAGAGTTGTCATCTAAATGT
AATTCTTCCAGATAGGGAATTTTTGAAAGTGAATCATAAGTGATAGTCCT
TATGTTATTTTCTTGCAAATGTAACTCTTTTACATACTTTTGGGAGGTTG
GTAGGGAATTCATTN

>Sequence-70

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TCAGCCACACAGTCCAGCAGACCTATATAGTTTAAGGTTTCATGTTGAAC
AGCACTTTCAAGAGCTCGCACTCCACTGACATCTTTCAGAATATGCTGGA
CACTTTCAATGTAACCAGACTTGAGGAGATTTTCATCTCTCTTTTTAAG
GTTTCCTGGGGTGAAAGTATGCTTTCCAAGGCTTCGTGGAACCGTTTCCC
TTGTAAAAAGACGTTTGAAGTGTATTCTTTAAAGCCATCTTCTCCCAGTT
CCAGAATCATCCGCTGTTTCCACCTCTCCAACAAGAAAACCTGTTGTTTT
GTCATGGTCTGCTGAAGGACTCGGGTCACACTTGGTATCACATTCCTTTG
CAAGGGGATTTTCAAAGGAACCAGTTTTGTGCATTTGGTTTATCAC
TTCTCTCTGGATTGAAGATAGGAAACCAGTTTTGTGCACTCTGTCC
TCACCTTGGTTTGGCAGCTTATGCTTGCTCACGGTTCCACAGAGCAAACA
GACCTGACTAATTAGAGTTTTTTCTTGGCCCCTTTTN

>Sequence 71

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>Sequence 72

>Sequence 73

>Sequence 74

NAATATGACTCACCGCGGTGGCGGCCGCCCGGGCAGGTACCTTGTGAGAA GAGGAAGAAGGTGATAAGAACTAAGATCAGAGCATAGTAGAAAAGTAGC

> Page 14 (of 261 pages in Table 2)

>Sequence 75

TAGGTAGCGACTCCCCGCCGTGGCGGCCGAGGTGCGCGGGAGGCGTTGT GGGAGGAGGTGCGGGGAGAGAGGAGGGCCTGTGCACTGAGCAGGCATC AAACATTAGTGGATGGCCTTGCGTCTCAATCTGCAGTAAAGAGGAAACTA ATCTGAAAGGGAACGATAGGACTGTGTGTCTTTTTATTTTTTAAAATACG GAGTGTGCAATTTTACTGAATCTTGAATCATGCCCAAAAGAATGAGCTGT CGGTGCTGCAGTCGTGACCCAGGCTGA

>Sequence 76

GGTCTTGGCTGCCTGTGGGCTTCCCCAGGTGGCCTGGAGGTGGCCAAAGG
GAAGTAACAGACACACGATGTTGTCAAGGATGGTTTTGGGACTAGAGGCT
TATTGGGGGGAGAGATCCCTGCAGAACCCACCAACCAGAACGTGGTTTGC
CTGAGGCTGTAACTGAGAGAAAGATTCTGGGGCTGTCTTATGAAAATATA
GACATTCTCACATAAGCCCAGTTCATCACCATTTCCTCCTTTACCTTTTA
GTGCAGTTTTCTTTTTCACATTAGGCTGGTTGGTTCAAACTTTTGGGAAG
CACCGGACTGGTCAGTTTCTTTTTGGGAAAGTGGGGTCATCGCATTTCCTG
CAAGGGCTTCTCCTCCTCTGGTCTTTTTGGGAGAACCCGGGGCTTTTTTCA
CGGGGCTTTAGGGAACTGGTCAGGCTGTTTTCAACCAGGAAG
>Sequence 77

GAGGTACTTTGGCCTCTCTGGGATAGAAGTTATTCAGCAGGCACACAACA GAGGCAGTTCCAGATTTCAACTGGTTCATAGATGGGCGGGAGAATGAAAA CAGATGGTGCAGCCACAGTTCGTTTGATCTCCACCTTGGTCCCTCCGCCG AAAGTGACCGATGTCCTTCCATATTGTTTACAGTAATACACTGCAGA >Sequence 80

GAGATGCCGGGGGTGCCGATATACTGTGCAGAGGTAAAGGATATAGTGGC TACGATTACGGCCTCTCT

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>Sequence 81

TAGATAGCTCCCGCGGTGGCGGCCGAGGTACAGCCAACCCCCTAGGTGTG
GACCAGCTGAGGCAGGTGGGCAGATATGCAGAGGGACTTGGGGCTTTGCC
AAAGGGTAAGCACAAAGAAGGAGTCACGGGTTCTGTTCGAGGCACTGTTG
GGATTAGGAGCCCGAGGGACCTACTTTGCAGGAACCTAGCATAACTTTGT
GTGACGAGACTGCACAAGACAAAGCTCAGGCAAGTGGCTCAGTAGTTGGC
CAGCCCAGCAGGGTCCTCTGTATGAGTGTGCACCCAGCTGAAGAGAAA
ATGGAGAGCAGCAATTGGAGCTTCAGGACCGGCTTGCACTGTGGCTCCAG
GTTATACCACCACTGCCCAAAGCAAAAGCTAGAGAAGCAAGTGGAGAAAT
GCTGGAGAAAGCTGCACCCTACAGGCAACCAGCACTTTAAAAACCACTCC
AGGCAAAGTAATGGAAGGAAAAAGCCCTGCTTTTCAGTAACCTGGGCCT
G

>Sequence 82

GACACCATACGTCTCTGTGTATGATCTCNCTAAGTCATATCGTGTAACGT GTACACTTACTCATTCAGCATATATNTCAACGTCAACTTCTGTTTCTCTC AGGTTATTATTTCATAACTACTTATATCTGTTTCACATCAGTAACATCGT CATATCTCTACGTCTTTAGTGATCTATTGTATTTCTAAGAGAGACTCCGG TGGCGGCCGAGTACGCGGGGGAGTCAGTCTCAGTCAGGACACAGCATGGA CATGAGGGTCCCCGCTCAGCTCCTGGGGCTCCTGCTACTCTGGCTCCGAG GTGCCAGATGTGACATCCAGATGACCCAGGCTCCATCCTTTCCTGTCTTG CATATTGGAGGAAGACAGAAGTCACCCATTAACTTGGCCCGAACAAGTTC AGAAGCATTTGCCCAGGGTATTATGTAATTGGGTTTTCAACCAAAAAACC CAGGGTATAAAGCCCCCCCTAAAGGCTACCTTGAATCTTATAGCTTGCCA TTTCCAGTTTTGGCAAAAGGTTGGGGCGTTCCCCCAATTCTAAGGGTTTC AAGATGGGCCAAGATGGGATTCCTGGGGGACAAGGATTTTTTTACCTTCT TAACCCAATACAAGGCAAGTTCCTGGCAAACTCCTGGAAAAGAATCCTTT GCCAAAACTTTTACCTACCTTGGCCCAAACCAGGGAGTTTAACCAGTGTT TCCCCCTTTGGGAACCGGTTCCGGGCTCGCCTTTCTAAGAAAACTTAAG ATGGGAATTCCCCCCGGGGCTTTTGCAAGGGAAATTTCTGATTATTCAT **CCCCT**

>Sequence 83

>Sequence 84

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TCACACTGATANGGTAAATCTGTAATAACATTATTCTTTATAATGATAAT
AATCTAATTCATGATCAATTATCTATAGATCGAATCTATACTCTTACATC
TCGACTCTACGATACTTTAATATAGAGATGACTCCCGCGGTGGCGGCCGA
TGTACTATGGCCTATATGGGATAGAAGGTATTTACCACGCACACAACAAA
CGCAGTTCCATATTTTAACTGCTCATCATATGGCGGTAACATGGGGACAT
ATGGTGCAACCACACTTTCATTTGATTTAACACCTTGGTAACCCCCGGCC
GCTCCTAGAAACCTAATTGGATCCCCCCCGGGGCTGGCAGGAAATTCGAA
TATTCAAAGCTTTATTTCGATTACCCGTCCGACCCTTTGTAGGGGGTGGG
GCTCCCGGGTAACCCCAAACTTTTTATGGTTTCCCCTTTTTAAGTGGAAG
GGGGTTAAAATTTGCCGCCGGCTTTGGGGCTGTTAAATTCAATGGGCTAC
AATTAGACCTTGTTTTTCCCCTTGGTGTTGGAAAAAAATTAGGTTTAATTT

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>Sequence 85

>Sequence 86

TGTGAGACTCCCGCGGTGGCGCCGAGGTACATCCCTGTTTATCCCATTC
CATCCACCGAGGCCCAACAGCATGGATGATCTGTTTGCAGGGAAGCCTCC
CTGCTCCCGTGACAGCTATCTCACCAGCTGACACTTTACCATATCTGGCA
ACAAACTGTTTGCTCTCTTCTTGGATTTCAAATCCACCAGCTTTTACCAG
GGCCAGGGCCAGGCCTCCCCCATGCAGAAGATCTTCATTGGCTGCATTCA
CCACAGCATCAACAGCATGTGTGGTGAGGTCATCTTTCCACACTGATAAC
TCTATCCTAGGAGTCAGCATTTTTCTGAACACTTGCAGAGATTTGCTGTT
GCCTTCCTGAACTGGAGAGACCAGGGTAGAGATACAGCCAAACTTATTCT
GGAGGACTTCACACAGCTGACGCTCATTATTGTTTAAAATTTTGAAGTCA
TTGTGGTTAATGGGAAATTTGCCAACTATAGTTTTCTCCAAGAGCACCAA
TCTCTGATTTTTCATG

>Sequence 87

>Sequence 88

TCGGACCGCTTTCAAGNTACAGAGGGTGGGCCGAAAACCCCCGACCAGGG ACCTTATTAAAGAAATACCAAGGCCCCGTTTTCCCCTCTGGGGAAGCTTC NCCTCCGTTGCGCCTCTTCCCTGTTTCCCGACGCCTTGGCCGGCTTAACC CGGGATTACCCTGTTCCCGCCCTTTTTCTTCCCCTTTCCGGGAAAGGCGG TGGCCGCCTTTTCTTCAATAAGCTTAACGGCCTGGAAGGGTATTTCTCAA AGTTTCCGGGGGGTAGGGGTCCGTTTCGGCTTCCCAAAGCTTGGGGCCTT GTGGTTGCCACCAAAACCCCCCCCCGTTTTAAACCCCCAACCGCGGTGGG GCCCCTTTATCCCGGGAAACC

>Sequence 89

CGGTCAGGTACCGCTCAGCCTGCTTGGTTGCATCCTCCGCATGGCGAGTC

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>Sequence 90

AGGTACGCGGGATCACAAAGCAGACAAACAGGAAAGACTGAACCATCTAT
TTGAAAAAAGTGACTTCATTCAATTGGTTCAGCCACCCGTATCTGTAATC
TCTCCATTCTGCCCTCTTGATTTTAATGCAGCTATAAAGGAGAGTATTTT
AAAAGTGCCTCCCAGTAGGAAGAACAGTCACAAGGCACTGTTATATCAAT
TCAGTGTGACACAAGCCCTGATTATTTAATAGTATAACAGCAGTGAATCA
GAGTTCTTTCATCTGACTTTGCTGACATTTCCAGCAGCTGTATATTTAAT
TCACAGTTAGGGGCTGAACAAACTACAGCCATTGATCAGAATGTAAGCAG
GCATCCTTGAGCTTCTTCTAGGAACATATACAGATGTGCACAAAATTTTC
ATTTATTCAGTN

>Sequence 91

GCGATTGGAGCTCCCCGCGGTGGCGGCCGAGGTACGCGGGATCACAAAGC
AGACAACAGGAAAGACTGAACCATCTATTTGAAAAAAAGTGACTTCATTC
AATTGGTTCAGCCACCCGTATCTGTAATCTCTCCATTCTGCCCTCTTGAT
TTTAATGCAGCTATAAAGGAGAGTATTTTAAAAGTGCCTCCCAGTAGGAA
GAACAGTCACAAGGCACTGTTATATCAATTCAGTGTGACACAAGCCCTGA
TTATTTAATAGTATAACAGCAGTGAATCAGAGTTCTTTCATCTGACTTTG
CTGACATTTCCAGCAGCTGTATATTTAATTCACAGTTAGGGGCTGAACAA
ACTACAGCCATTGATCAGAATGTAAGCAGGCATCCTTGAGCTTCTTCTAG
GAACAAATACAGATGTGC

>Sequence 92

>Sequence 93

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>Sequence 94

TGCCCGGGCAGACACAGCTCCATGAGGTCACCAAGCATCCCATCACCCAT ACCGGCAGTTGCATGGCAATGGCTGCCAGGCAATGGCACATCAAAATCCG GGCAGCGTCTTGAGCACTGTGCAATTGAGTCAACAAGGTCTCAACTACTG ACTGGCTAAGATGGGGCCTGCCCTTGGCCAACTTCACCATACAGTTTAGA GCAATCTTTAAAGTGGCCTGAGCACCTGGACTATCATCTTGACTACAAAG TACCT

>Sequence 95

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>Sequence 96

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>Sequence 97

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>Sequence 98

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GGCTTCAAGATGATTTAGGACTTGGGTCAGTAGCACTTACTGATGTAGTG
GTTTGATACACACTGATTACCTTCTTCTTTTTTATTCTCTGGCATTTCT
CCTATATAACTAGCCACTTTTAAACAATATTTGTCGGCTCTTTTCTTCTG
CTTGTCTGTAAATATTAGGGTTCCTGAGTCCTTACCTAGATTTTCTTCTC
TTCTTACTCCTGGCCTTTCCTTGGGAGAGTTCATAATTCACCTACTCCAT
CTAGATATTTGTGATGTCCAAACACATCTCCACGTTAGGCTTCTATFTGT
AGCATCAGACCCACACTTTCAACTGTCCACTAGATAGCCTCACTTGGATG
CTCTGCAGGCCTAAATAACCTTTGCGGACAGATTAACAGGGAAAAAATAT
TAATAGGAAAAAATATTAGATTTTTATCTGATGTTAATATTTCTATGTGG
CATGGAGGACTTCACAGANAAAAGTGAAAACTCTAAAGCAGTTAGATTTG
AGN

>Sequence 99

>Sequence 101

>Sequence 102

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GAAAGATTCTTGAGAACTCGTGCATAGGAATGAACTGCAATAAGGGCAGA TTAGAGAAGAACTAGGCCATGAGGGCCTAGTATCCAGAATGAGGCAGAGG GAGGGACGCTGGATGTGAGCAGC

>Sequence 103

>Sequence 104

TCGAGTGGATGAGCTCCCCGGGTGGCGGCCGGGACACGTAACAGGGTGGT TGCATGCATTCCTCAAGTCTGTATGACTCTACCAAGATACTGTGAAG

Sequence 105

>Sequence 107

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ACGGTGATAAGTAGGTTTGTCTAGCAGCACTGATGCGTCGTGGAAGTTGA
TGGTCATGAACATACAGTGTGATAACCTATCTGCCCTCTTGACCTTTTCT
AGTAGTGCTATGTCATTTTGGTACTAAGGTAGGTGAATTTTCCAAGTGTT
CTTGGAAATAAGGAAACATCAAGAATAATGTAAAAGCCTCATATACAATA
ATGAATAATAAAGAATAATGTGAAGGCTTCATTCAAGGTTGGGGTTTGCC
AGATACATTGCÄACAAAATGACAGAGCAGCCAAGGTATTTAGGATAGTGG
CCAAAGGATTGTAATGATGGCTTATGGAAGTGTCAGCTGGATAAAGAGTG
AAAATGAATAAAAACTAATGGATTGGTTCAGTCGAATAGCAGACGGCACA
ATGGCCCATGGCCCGTTAGAATAGGGACCCAATTAAATGGAGACCAGTCA
AGTGGGGGGGGATCAT

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>Sequence 108

>Sequence 109

>Sequence 110

>Sequence 111

GTTTGAGGGCGACCACGCGTCGCGGGATTGGACCGACGCAGCCATGGTAG GTCCAGATCCCGTAGAAGGGAGCGGGGTCCCATAGGTTACGGCCGATTCC TGGAGCTTCTGGACTGAGGGCCGCGGTAAGCAGTGGTCTGGGCTCCCGC >Sequence 112

GTAAGAGGCGCGTGGCCGAGCGGTTTGCATCGCCAGCTCGCGCAAGGCC
ATGAGGTTGGTCTGGGTGAAGAACGCATCGATGGCGCACGGCCTGTTC
CGGCACGTAGACCTTGCCGTCACGCAGACGCTCCAGCAATTCGCGCGATG
GCAGGTCGATCAGCAGCAGCTCATCGGCTTCCTGCAAGACCCAGTCAGGC
AAGGTCTCGCGCACTTGCACGCCGGTGATGCCGCGCACCTGGTCGTTGAG
GCTTTCCAGATGCTGGACGTTGACTGTGGTGAATACGTTGATGCCGGCAG
AGAGCAATTCCTGAATGTCTTGCCAGCGCTTTTCGTGGCGGCTGCCGGGG
GCGTTGCTGTGGGCCAGTTCGTCCACCAGCACCAGGTTGGGCTTGCGGC
GAGCAGGCCGTCTAGGGCCATTTTCTTCAGCATCACCCGCGTATTTGG
AGCGCACAACCGGGTTTTTGTGGCAGGCCGCTTACCAAGGCTTTCGGCTTG
GCGCGCCCTGGGTTTTTCACCACCCCGG

>Sequence 113

GGÁGATGTCGCCACGATCGGGCGCGGCCAGCCGACTGGACCCCTTAGCCT CGAGGCCTTTGCTGAAGCTCATGTGAGGGGGCGACTGCCCCTGACAGGTG TTGGATTCCAGCTGCTGTGGCCCTGAAGGTGGTGGTGGGAAGAACGGGA

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GAATGAAGCCAGCCTTGGGAGAGGTAGGACGCCAGCCCGGCCCAGCTGCT
TCCAGCATCTGGATCCAGCCTCACCTGAAGCCAGCCACCTTCTGGACTGC
AAAGTCATTGTCAACACCGAAACACAGGGTTTCTGACCATTGCAACCCAG
GGTCCCGGCGTGTCGTGGCTGCAGACCCTGCAGACCCCTATGAAGATGGT
CCTGCCTGCCTTGCATCGGGCCTCTAGCTAGGGACTGTGGTTGCAGACGT
ATTTCTGGGACTGAGCCTCTGGTTAGAGGCCAGTGGTGAGGAAAGAGAC
CCATCAGAGAAAAGAGTGGAGCCTCGGGCTTGTTAGCAAATGGCAGAAAC
CCGACCCTGCAAGAGGAAAACATTG

>Sequence 114

>Seauence 115

TACGTATGACTCACCGCGGGCCGGAATCGTTGTACCAGACCAGGCCCCCA GGGCCCAGCTACTCGAAGAACAGCCAATGGATTGGAACGTCCTAGGACAG ATGCCACGGCTTTGACCCAGGCTGGGGGTGCACGGATCTCACTGGGGTTA GTTGGTCGGAGGGGGAAGCCCCATGGGTCCACCAGGATGAGGTGTTTAAC TCTATCAGGGTACCT

>Sequence 116

>Sequence 117

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Page 22 (of 261 pages in Table 2)

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>Sequence 119

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GTCCCTGGCCAGTGAAAGGGTCTAATATAAAACACACCGAGGCTGAAATA
GCCGCTGCTTGTGAGACCTTCCTCAAGCTCAATGACTACCTGCAGATAGA
AACCATCCAGGCTTTGGAAGAACTTGCTGCAAAGAGAAGGCTAATGAGGT
GCTGTGCCATTGTGTATGTCTGCAGATTTCCCCAGGGTTGGGATGGGTTC
ATCCTACAACGGACAAGATGAAGTGGACATTAAGAGCAGAGCAGCATACA
ACGTAACTTTGCTGAATTTCATGGATCCTCAGAAAATGCCATACCTGAAA
GAGGAACCTTATTTTGGCATGGGGAAAATGGCAGTGAGCTGGCATCATGA
TGAAAATCTGGTGGACAGGTCAGCGGTGGCAGTGTACCTGCCCGT

>Sequence 120

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>Sequence 121

>Sequence 122

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>Sequence 123

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CTGCAAACCAGTAACCTGCTATGGCCAATTGTGAAGAGATGGGAGTCTCC
CCGTATTGCCCAGGCCGGTCTCAAACTCCTGGGCTCAAGCAATCTTCCCG
CCCCACTTCCCGAAGCCCTAGGATTACGGGAGTGAGCCACCGCACCCAGC
CAGAAAAACGTTTCAAATATTGGAAAACCTTACTTTTTTCAATGAGCATT
TTTGCATCAAGGGGTAACAGGGACATTAGGCTTTTTTTCTCTTAGACTCC
AAACAGTAAGGTCAGAATTTATCAAGACATTACATAGGAGTAAGGGCACA
GCCAGGGGTGGTGGGGNGGAAGGACATTTTCCAGCACTAATTAACAGGTT
TTATGATTCACTAGGTTGGCCCAACTACTGTTCTCACCTAATTCCCAGGC
CAGCGTGTCAGGAGGCCAAATGACACTNTCCAGTGCAAGTGCTTGTAGTA
TGAAGGGGGCAGAGATCACCTAGTGACCA

>Sequence 124

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>Sequence 125

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TCTTGAGAGGGAGACAGCAACCAAATAAACAATTACAAAAAAAGTATGTAA
CTAATTAACAAGTGGGAGAAGGGAGTGGGATTACACAGCAGAAGTGGAAG
GAAGGGCCCACTTAGAGTGGTCAAAGGCTTCTTGAAGGTAACATGTAAGC
TGAGACCTGAAGAAGGATGCAAAAGGGCCAGCATGTAAGGAACAGAGAAT

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AAACATCCCAGAAATAGAAAATAACACACAAAAACCTAAAGTCATTAAAG AACATGATCATCTTTCAAGAACTAACCCTTGAGATCAGAGTAGTTTGATT ATAGAGGAAAGGGGTGAGTGCAATGAAACGTTAAAAATAGCCAGATCACG TAGAGCTCTCTAGCCTTTGGTAGAAAAGG

>Sequence 126

>Sequence 127

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>Sequence 128

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>Sequence 129

>Sequence 130

GAĞACTACT

>Sequence 131

GACAGTGAGCTCACCGCGGTGGCGGCCGCCCGGCAGGTACCTATCTGCAG

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Table 2

>Sequence 132

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TGTCGATGTTCTGGCTCTCCTCATCATGGCTCAGCGCAATGGCGGCGTTC
GCCTTGCCGGTCGCCTCCACGAGGAACAGGGCTGCGGCCGTCGACACATC
GCTGGACGCGAGGGTCAGGTTGCCCTGAAGCAGCCCCTTCTTGTCCTGGG
TGACATCACCGCGCAGCCGCGTGCCGCCGGCAATGAACTGGATATTGCTC
AGGCGTTTTTCGTCCTTGTGCAGGGCAAGTTCCGTGGCAAGATCGGCCCG
CACGCCGTCGAGGAACGCCAGACCGGATACCTTGCCGTCCGCGCGTCCTT
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GTTTGCCATCCGGAACCCGGCATTGAG

>Sequence 133

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>Sequence 134

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>Sequence 135

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>Sequence 136

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>Sequence 137

TGTTTGTGGATTGACACGGGCGGCGGCCGAGGTACTAAATTTAGCAACTT

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>Sequence 138

>Sequence 139

GAAAGTAGGGATTGAGCTCACCGCGGTGGCGGCCGCTGTGAAACAATGCT CATAGCTCTTGAAACGACAGCGATGTTTCCGTAACGGCATCTTAGCACGA AAAAGCTCCACGGTCTCATTCCACAGCCTGGTAGCTCGGTACCT

>Sequence 141

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TGTTATGCTAAAACTTGGATGGCCTCTGAAGATACTGCTCTTCACCCCTC
TGAAGGGGGCTCCTCAGGGGAAGGTACCT

>Sequence 142

>Sequence 143

>Sequence 144

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>Sequence 145

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CAGGCTGTGGAATGAGACCGTGGAGCTTTTTCGTGCTAAGATGCCGTTAC GGAAACATCGCTGTCGTTTCAAGAGCTATGAGCATTGTTTCACA >Sequence 146

TGGACGACGGAATTGAGCTCCCCGCGGTGGCGGCCGTTCTGCTTAGCCAG
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TTGCTTCTCTTTCAGTCAAGATCTGCACAAAGTATAGCATTAGGTGGTAT
TTATTGTTTATATTATGAGTTCTACATTCATCTTTCCAGCACTCTGAAGT
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TTTTAATTCATTGTTTTTTGACCCCTTTGAGAGTTTTAATAGAGAGGAGTC
TGGAAGGCAGAGATCTCCACCACCTAACCGTGAGAAATTTGGAACTAAGG
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TGGTCTTTCTTGCATTGGGCAAAATGAATGAACGGGACCAGAAGGCCCTC
ACCCCTTGTGGCATTTCCAAGTGGACAGGACTGGGACCCGGGATTGGTTA
AATAACCCGAAAAACGG

>Sequence 147

>Sequence 148

>Sequence 149

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>Sequence 150

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>Sequence 151

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Table 2

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>Sequence 152

>Sequence 153

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>Sequence 154

>Sequence 155

>Sequence 156

>Sequence 157

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>Sequence 158

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>Sequence 699

>Sequence 848

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CAATATGCTGGACCAATTCGGTAAAATACACCATAAATTATGACTGCTTT
ATCTGAATGCATGGGACACTTGCTACGATGGCGGGAATTATTACCAGGAG
TTTAGGAGCCAGACATGGGTTCTGTATTTTTCATACATTGGTGATCAATT
CAAATCTCTTTCCTTTGCAGCCCAGGTTTGGTCAGTCTGGCCAGGAGTGC
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TCTCAATACCACCGAGTTAAACAACCTATTTAAATGCAAGACTATTGATT
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>Sequence 849

>Sequence 850

>Sequence 851

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>Sequence 852

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>Sequence 854

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>Sequence 855

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>Sequence 856

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>Sequence 857

>Sequence 858

>Sequence 859

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AATGCGTCTTTCCTCTAAGCCAAGTTCTCAGTCCACATTAGTCCATACTT
GGCTACAGAATTGACGTTTGTGGCCACAATCCTACTAGAAATGACCTTTG
GGTAATATCCTTATCTTGTTGATCTAGTTAGGGTCAAGTAAAACGAAATA

GGTACTTTATGCAGAAGGAAAGCAATTGCAGATGGAAAAAGCTGAGATGC
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AAATATTTAGAAATGAAAGACAACAATAGCATATAAGTTAAGAAAGGGGG
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TTTT

>Sequence 861

>Sequence 862

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>Sequence 863

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TTTTGTTGATAGCACTAGGAAGACTTCTAACGTTTAAATACTTTATTTGC
CCTCAATTACTATTTAAAAGTCCTATAATTTTAAGTAATTNTACAGCTGA
CAAAGATAAATATTTTTTTCTTTTAGTTTTTCTAATGTCTTGGAGGTAAA
GTGGAAATGGCCTGTTTTGACACATAATTTCTAGAACTTGGAGTTAATTT
GATCAGTTACATTTGGGTTTTTTTTTAGATTACAGTTCTTGGGGTAGATAA
CACTTCTTGCTGCTTTAAGTACCCTCGGACGCGACCACGCATAAGGGCGA
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>Sequence 865

>Sequence 866

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>Sequence 867 CCGCGGGCATGCAGCCAGGCTAGACCGGCTCAGCCCCACTTCAAGACAAA ATCTCAGCACCCATTACTCACCATACATATTTATGCAGTGAGCTGCATCA TGACCAGCTATCATCTTACCTCATAGTTTTTTTCTCTGGTAGAGATAATT AACTTATTATGCTTGATCAGTTAACTCTTGCTTAGAAATTTAAAAAATAT TTTTAAGTGACAAATTCTTTGTAGAAATTTTTGAAAATAGAAATATTTGA AGTAGAAAGTTAAAATCACCCACAATTCTGCTTTTGTTAACATTTGAATA TGTTGTCTTCCATGATATATAACAAAATTTGTCTGGGTATTGCATATGTC GTCCTTTCCTTCATATTGCATTTTGAGCATTTAACCAGAACACTAAA TATTCTCCCTAGAACATATGGATTTTGAATAATTTAACTAATTATAAAAA TAACTTCCCTAATGGTTCTTTGGGCTCTTTAAAGGTTTGCTGGTATATGT TCAGGGTATGAACACTTAAGGCTCTTGACCACATACTGCCATACTGCCAT ACTGGCATACTGCTTTTAAAAAATAATTAAGCTGAGTGCGATGGCTCACG CCTGTAATCCCAGCACTCTGGGAGGCCAAGTCAGGTGGGTCATTTGAGGC CCGGAGTTTGAGAACAGCCTGGTGGACCTGGGTGAAACCTTTTCGTTACT AGAATAACAAAAGGTTAGCCAGGTGTAGCAGCATGTACCTTGGGCGGGGA CCACTCTAAGGGG

>Sequence 868

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>Sequence 869

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>Sequence 870

>Sequence 871

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>Sequence 873

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>Sequence 874

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CCTAAAGACTGTAAATCTGCCTGGAATCAGATAGTTGGCAGCAAAATCAG
AAATAGAAAGCAGTTACTCAACAACCAACAGTTTAATTTAAGAAACATTT
GACAAGCATCTCCTGTGGATAAGACCCTATGCAAGATGTCATGAATATAA
ATATGCACAGTAGT

>Sequence 875

>Sequence 876

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>Sequence 877

>Sequence 878

>Sequence 880

>Sequence 881

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GTGGCCCACGCCTGTAATCCTAGCACTTTGGGAGGTGGAGGCGGGCCGAA
CACAAGGTCAAGAGAACGAGAACCATCTTGCCACACGGGTGAAACCCTAT
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GGACCACGCTAAGGGGGGGATTCCGGACCATGGCCGGCGTTTCAAGGGGAA
CCAGCCTCGG

>Sequence 882

>Sequence_883

>Sequence 884

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GCAGAGGGATGGAGAGTCACATGCTGGAGGAGGTGAGCGTTGACATGGTC
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CAGTCAGTGATAACACTAAAAAAATCAAAAATTTTAAAAGTCTGGAATCA
CAGCATAAAGAACCCGTATGCAGGATTTTTTATCTCGCAGCCCTGTCTCCC
TCAGGAGACAGAGATCCAGAATCACTTTCCAGAATGGTTTAGGGTCACCT
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TGGACCTGACCGGGCGGCGATCGAAAGGCGA

>Sequence 885

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>Sequence 886

>Sequence 887

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>Sequence 890

>Sequence 891

>Sequence 892

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TCCAGGGATACGTCCATCCCCGTCCTGCTGGAGCCCAGAGCACGGAAGCC
TGGCCCTCCGAGGAGACAGAAGGGAGTGTEGGAEACATGAEGAGAGCTT
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ATCT

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- Sequence 899

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TTCAGAGTTGAAAGTGAAATAAAGGATAATAATCTTTGTCTTATTTTCTT
TGTTTTAATGTTTCCCAACTTACGTTAGGACAATGTCAACAAAGACAGAT
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>Sequence 900

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>Sequence 901

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Table 2

262

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>Sequence 910

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TTT

>Sequence 912

>Sequence 913

>Sequence 914

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AGAGCTTTTCCAGAGGCAGATGTTGAGGAGTTTATCCTATTTGTCCCCTT
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>Sequence 917

>Sequence 920

>Sequence 922

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>Sequence 924

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>Sequence 929

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AAGAATAAGAGGACATTTTTAAAGGAATTAAAGGAACATTAATTCCTTCA TAAATGTATAGTGCTTAAGCTCTGCTTTAAAAGGTCTTTCCATGTGCTCT TGGGTAACCACTTAGGGCTGAATTCATAGTATAAATATCAATAAATGTTG CAATCACAAT

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CGTG

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²⁶⁶ Table 2

TG

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>Sequence 938

>Sequence 939

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ACTGTTCTTTTT

>Sequence 940

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>Sequence 941

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>Sequence 944

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²⁶⁷ Table 2

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>Sequence 947

>Sequence 948

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>Sequence 951

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>Sequence 955

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269 Table 2

>Sequence 959

GGTACTTTTTTTTTTTTTTTTTTTTTTTTTTAAGACAGTCTTGCTAT TTTAAGTCCAGGCTGGACTCAAACTCCTGAAGATTGCTCAAGCAATCTTC CCACCTCAGCCTCCCAAGTAGCTGGGATTACAGGTGTGATGTCCAGCTTA GGTTCCAGCTCTTAAAAGAGTTGTCAGTGTGGTGGGCGAGGTGGGTCACA TACACATATAATTATAAGGTAAAAAATCACAACTACTACAAGAAAGGTGC **AAACATTTATGAGAAAACCAAAGAAGGGAN**

>Sequence 960

CAGCAGAAGATAATATAGACCCCAAGGCTAAAGGGAACCATTATCATCTC TAGGCCTGAAAGCCTAGGAGAGGGTGCTGTATGGAGAGGACTGCTTCTGA CAGAGGGATATAGCCAACCTTGGTGGCCTAATAGAGAGGAAAGTAGGGAA TAGCTTCACCTTCCTCTAATCTTCTGCTAGTATCCCTATTAATTTAG CCTAATTAGAAGCTGGAAGGTAGGAGAGCCTCCATGGGCAAAAAGCTGTG TAGAGAACATGGATCCTGAGGGGGTAAATGGCAGATAATCTAGCACAGAT TGG

>Sequence 961

CAGCAGAAGATAATATAGACCCCAAGGCTAAAGGGAACCATTATCATCTC TAGGCCTGAAAGCCTAGGAGAGGGTGCTGTATGGAGAGGACTGCTTCTGA CAGAGGGATATAGCCAACCTTGGTGGCCTAATAGAGAGGAAAGTAGGGAA TAGCTTCACCTTCCTTCTCTAATCTTCTGCTAGTATCCCTATTAATTTAG CCTAATTAGAAGCTGGAAGGTAGGAGAGCCTCCATGGGCAAAAAGCTGTG TAGAGAACATGGATCCTGAGGGGGTAAATGGCAGATAATCTAGCACA

GGTACTTGAGAATATGATTGTAAATTTGATCAGCAGCTACAACATTTCAA TGATGCATATTTTTTTTCAGATGCATTCCTTTGATTGAATTTAAAGTCA AGCTTGTGCTTCTGGATGGTTGCTTTGTCAGTGAACACTTGGATTTGGAA AATACAGCACCTGGGTTGGTTTTGAGAGAAAATGGTTTCAACTTTATAAT TACAGTTTTAACCACCACAACAACAAATTAGGATGGTAGTGAAATGGAA CTAAATCAAATGCAAGGTTTTAGTTTAATAGAACAATGTCATCCTTTAAT AATCTTTAAAGAAGAACAACTTAATAACCAATAACAAAATTGAAATAGGT CAACTT

>Sequence 963

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ACACTGCATAAAGCCAGAGTTAAAACTTCACTGCCAGCCTCTGAACAGAA GGCTGTTCTATCCACACTATCACAAGACCTGGTGGAGTTGAGGCAACTGC TGAATTACCATACAGGGAAGAATGAATTCAAGAAAATTCCCATGCAAGAT AGGCTCTTAAAAAATAAATTTACACAAGAAAATCAGCACTGTAAAGGTAA TTGATAAGCCCAATAGAAGGGAAACCTATACAAAGAAATAGAAATAACTA AGCAATCTGAAATGGACTTTAAATAATGATGT

>Sequence 965

ACACTGCATAAAGCCAGAGTTAAAACTTCACTGCCAGCCTCTGAACAGAA GGCTGTTCTATCCACACTATCACAAACCTGGTGGAGTTGAGGCAACTGCT GAATTACCATACAGGGAAGAATGAATTCAAGAAAATTCCCATGCAAGATA **GGCTCTTAAAAAATAAATTTACACAAGAAAATCAGCACTGTAAAGGTAAT** TGATAAGCCCAATAGAAGGGAAACCTATACAAAGAAATAGAAATAACTAA GCAATCTGAAATGGACTTTAAATAATGATGTTTACAATTCTCTAAGAGGA AAAGGAGCATTAGCATCAGTGAAACAAAAGTAGGGCTATAGAAAAAACAA

> Page 48 (of 261 pages in Table 2)

²⁷⁰ **Table 2**

>Sequence 966

>Sequence 967

>Sequence 968

>Sequence 969

>Sequence 970

GGTACCAAGATTATGATAGCCTCTTAAAACAAATTGGAGGTTATAACCTT
TTTCTATTCTCTGCAACAGTGGATATAGGATTGGAGTTATTTTTTTCTTA
AGTTTTTGGGTGAAAACTAGCCCAGTGAAGTCATTGTGGGTTTTGGATTTT
TCTTTGTAGGAATGGTTCCTTAATTTACTAATATAGCTTTTTCCAAAATA
TGTTAATGAGTAATTATTCCAGGGGTTTTTCTATTATCCTTCCCTTGTGG
ACAAATTTTTTGTCTGGTCTTTTGTTACTTATAAAAGATATTGATTCCAT
GCCTAATAAAGTGTTCTAAATTAATTTTATTTGGGATATCTAATTCTTTA
TTTTTCCAAATATACGAATTCCTATGTTATATTTATTTTTTTACCAAAGC
ACCAAGTGAATACTTTTAAAATGGTTCTTTAAAG

>Sequence 971

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TATTCAGGTTTTCTATTTCTTCCTGTGTCAATTTTGTTGTCTTTTTCTAT
AAATTTGTTCATCTATAATTTTAATATTTTTGGTATAATTTTTTCAAAA
TAATCTTGTATTTATTTACAAGACAGGATCTTAATGTTTAATGACAGGAT
CTAT

>Sequence 972

>Sequence 973

>Sequence 974

>Sequence 975

>Sequence 976

>Sequence 978

ACGACTTCACAACACCAACCACAGGTCTCAAGGTCAAAAAATGAGCTAGG AGTAAAGTATCTGCTCCAGAATCTACCCCCATCCCAGAAAGAGCAACCCA

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²⁷² **Table 2**

>Sequence 979

ACCTGGCAGCAGAGTAGGCACTAATATGTGTTGAATGAGTAGGTGAAATA
AACAAAAACCTAATGGCGATGGAATTTTATGGAAATAAGTAAACTTCATT
ATTGCTGAAAATACCGCAGATAAATAGAGGGGAGGCAGTGTAATAGAGTGG
AAAGAGCAGTAGACCAGGAGTCAGACAGTCGAGGATCTCATTCTAAATTT
GAAGGTGAATAGCCATGTGGCTTTAGACAGGACTCTGAACCACCTTGTTT
TCTTATCTGTAAAAGGGGGAAGTCATAATAGCTACTCCTGCCTAACTCAT
AGGTTGTTGAGAAAATGAAGTGATTCA

>Sequence 980

>Sequence 982

GGTACTTAGATCAGATGGATTGAAACATGACAGCCCCATTTCATCTGGCC GGTTAAGGTCCTCATGGAATGAAAAACACTTTCGGGCACTCTCCTATGAG AGAGAGAATGGGTTTCTTTAATTGCCAGATTGTCTGAACACAGCCTCAGC TACTTCTAGGAATAAGACGAAGCAGTGAGGAAGTTGCCAGTTGAGTGATT CTTGGGGAAAAAAATTAGCATTCAGTGCCAGCTCTCTAAAGTGTGGATTC TGGATTCTGGTAGAAGCCAGTAAAGAAACGTTTTCTCTGGAGTGGAAGCT AGTAAGATTTATTC

>Sequence 983

>Sequence 984

>Sequence 985

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²⁷³ Table 2

ATGTTGGCCAGGCTGGTCTCGAACTCCTGACCTCAGGTGATCCACCTGCC TCAGCCTCCCAAAGTGTTGGGATTACAGGAGTGAGCCACCGCACCCAGCC TGTGTGTGTTTTTTTACTTAAAAATTTTTAAATTTAAATTTAAATGTTTA ATTGACAAATAATTTTATATATGGGGTATAATGTGATGTTTTTGATGTATA CATTGTTGTATACGTTGTAATTGTATACATTGTGTTGTATACATGGATGT ATACATTGAAATTATTGTATCCAGAAAATTAACATATCCATCACCTCAC >Sequence 986

GGTACATGGAATACATAATTTTGAAATGGAGTCAGGGCTTTCCTAATGAT CTCAAGGTTAGTAGACAAACTTGATATTGAGTTGCACTGGCTGCCTTCTC TTTTTGGTCCCCTAAAGAGTATTTATCATCTTAGATTCAGCTTAAGTTGT GGACAAATATCAAGGGGAAAAGTATTTACAGTTAACGTTGGAATCACACG GTTTTCGNGGGTTGTGCCTCTTTACCCTTCAACTTTGGTGGTTCTAAAGA GGGACGATTATTAGTTGCTTTCACTAAGGAGGGGAAGTTCATGATGGAGC **AACT**

>Sequence 987

GGTACCTGGCCTAGAAAATATTTTTTTTTTTTGAAATGGAGTCTCACTGTG AAAACAAAACAAAATAAACTTTACTCAAATATCACTTTCTGTTAAATGT TCTTAATTCCTTCAATCATCCCCCTCTTCTAACTCTCACAGCACTTTCTT CCACTACGGCACGCATCACACGCCAACTACTCACCAGTTCACGTTTTCCG CCCTCTCTCCCACTTGCCCAATCACAGAGTTCCTAAAGAACCAGGACTAT GTTCTACTAGTCTTTGTAGCCACTGCACTCGGAATGGTGTCTAGTACCTG CCCGGGCGGCCG

>Sequence 988

ACTCCTGTTTCTACAAATTTATCTTATAATAATTTGTCAAATGTTGAGTG CACAGATTTATTCATTGCAGCATTTGTTTTTCATATCAAAAGATGGGAAA ATATCCAATAATTGAATATTATGCAAGTATATAAAAAAATAAGAATCATGA GCAGAAGAAATAAGTTGGGTAAAAAAAACCCCAGAAATGTTTACTAATA ATTATATTAAAAAACTCATAGGATAAACAAGAAGGTAATGAAATAATTAA

>Sequence 989

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>Sequence 990

GGTACCTGTGATTGTCTGTGTTGAGACTATTACAGAGCTCCAAAAATTAA **AATAAAAATAATTTTTACAGAAATACATATTTGCATTGGAATATTTAA** GAAAGTTGAGTTTGGATGCCACAAGATTATTGGAGTAATAGGAAGCTGTG CACAGTGGCTCACACCTGTAATCCTAGCACTTTGGGAGGTTGAGGCAGTG CACAGGGAGAATCCTGTCTTCTTCATTAAGTAAAATTTATAAATGGAATT TAGCTGGTTGGTGTTTTGACAATTTTTTTGGTAATGCTTTGGTGTA **CCTTGTA**

>Sequence 991

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> Page 52 (of 261 pages in Table 2)

ATATTACTTAAAGTTTGCAATAAATATTTATTACTTTCAACAGTGAAAAA AATTACAAGAGAATATGAAATAGCACAGTAATACAGACTATAGTAATG CTAGAGAACATAATGAAAAAACAAAGAAAATATGGGGGGGAAAATAGCTTA AATCCTAATCCAAA

>Sequence 992

>Sequence 993

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>Sequence 994

>Sequence 995

GGTACCATCATCTGTTTCCCTCTGGTTATAAATCTTTAATGAAAACGGAT TTAAAAAGTCACATTATGATGCTCGAAGCTCTGACCTCTCATCACAATGA GAAGCAAAAGACATGCCATAAAGATGATATTTCCCACAGGAACGATATTA GAATTATGTGATGCAATCTCATCCAAGGTCATGGTATCAAACCAGACACA GCTAANAATGTATCATAATAGCAAGGATACAGTAGCAAGGATGGGCCTCA ATAAACATTTAAAGTGGAAAAATTCTTCTCTAACTCATATCAAGTACCTG CCCGGGCGCCC

>Sequence 996

ACCAAAATAGATAAGGATCCTGTTTTTTTGAAATGAACCCCAGTTGCGCCT TAGGCATTGTGAGTTGGCTCATTTCAAGCCAGTTGTAATATGGTTTTTTA TTCTCTAAATTTCGGGACCTGATGCTAAGGAATGTGAATATACAGTTAGG TTCCTGCGAACCCTGTTTGGTTCAAAAAAGGCTGGTGGAGGGAAATTTAT GACACTAAATGCTTATATTAGAAAAGAGGAAAATTGGCCGAGCACGGTGG CTCATGCCTGTAATCCCAGCATTTTGGGAGGCCGAGCCAGGTGGATC

>Sequence 997

Page 53 (of 261 pages in Table 2)

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>Sequence 998

>Sequence 999

>Sequence 1000

>Sequence 1001

>Sequence 1002

ACTACTTGGCATTAATTAGATTGTGATCATAAGTCAAAATGTCATTGGTT
ATAAAGTGGTCATCAGACCATGCAGACTATTACTAATATTGGTTATGTTT
TAGTTTATTGCAGTGAAAATACAAAATTTAAAAGTTATTGTAGAGAATTA
TCATACCCCCCAAAAAGTGTCATTGGTCCTCCAGGACTCTGTAGTCCCCA
TCCAAGAAAGACTGTGATAATTGTCAAGGGGTTAGTATGGTCTGAGCATG
GTTGATGGTGCTCTGTCATTCTGGTATTAAACAACCTGCCAAATGTCTTG
ATTACATGTCCTAAAAAAGTGAGGGGAAGAGTGTAGGACAAATGCAAAAT
AAAATAACACATTTAGCTATACTTTTAGTATTTTTTATTATTGAGATTCA
ATATTTAAGTGACCGATTCAAGAATCTTTTATATAAAAAAATGAATATATG
CATAAGTAACTGTGGATAAGAACTGTGGATGGATAAGAACACTTTTTTGAT
GTA

>Sequence 1003

CCCTTAGCGTGGTCTCGGCCGAGGTACATCTGTTTCTGAAAGCATTTTTC
ACTGAACCAATTTTCTATACCTTTTCTTGTATTCTTTTCCTTAGCTTTT
GTTTATATGGTTGCTATATTTTTCAAGCCTCATACCAGTCATATAAAACC
ATGATAAAACTTCATCAAAGCATACTTGGGCAAATTTCAATTATCAAGTA
AAATTGTAAAGAAAAATTTTTTACTAGTTTGGAAATAGATCTACATGTTT
GATTTTCTTTCCTTCCTCCCTCCTTTGTTTCTTGTCTTCTCCCCCTTT
CCTAAAAAGTTAATGGCTATCATTATCTTCACCAAATTAGTGTTTGTATA
CCCATAAAAATGTCAC

>Sequence 1004

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TAATACCTTATTGTAATTATTATTTTTTTGGAAGACTATTTTTTATATTCA GAAGAAGTGTCAGAGTCAGCAGAAAGGGATTATTTCTCCATTTACCTACA ACAATGGTTTTAAATGACTGGATAGATAGAAATCTCTTTCAACTTAACTG CTTAGCACATTGCATTTTTCTCTGTTTCAAGTTAGTTTTCCAAAGGATTA CTGACTTTTTACCTAATTTGCTAAGGGATGTCAGGCCTTAATGACATATT TCTCCTCAAATAAAGATACAACATGCTTTTACTGTGTAGGAG

>Sequence 1005

GGTACTTCGGTATTACAGCGCCACCCACTGGCTAGAAGTCCTCATAGCAC
ATATGAGATGTAGCCATAAAATAGATGAATTCTTGAAATAAGGAATATAA
CACTGACTATTCTGATTCAGTAGAACATAAAAAATGTCTAACAAAACAGG
AACCTAGAĈACATTTATATTTTCTACAAGTAAACAGAATATCTATTA
GATATGTTCACAAGGGTTTTATCAATTTTGAAATCCAAGTGGATAATCCC
CAAATGCTGTAAGGACTTAGATTTTATAGCCAAAACAATTAACACATAAA
ATGCTATTACATATTTGG

>Sequence 1006

ACATAGTTCTGCTTGCATTGGTCCCATTACAATCCTGTCTAAATCCTGAA
GTAAAAATGAATACCATAGTGAAGAAAATTACTTGTGCATGTGAAAGAGGC
TGGTCCAACTCCTTAATTGCAACAGGGATTTGATTCTTCTACTAGTAGTT
AGGAAAGGTTGCATTAATATTCAGTAGTTAAAATGTGCGATTCTAAATTT
TTTGTAATTTCCCATGAGAGAATAAATTTTTTCCAAAAATATTCCCAGTAG
GTGAATGGCTTTAATACATGGTATCTGTGAAGATGGCAAATAAAATGACT
>Sequence 1007

>Sequence 1008

>Sequence 1009

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CCCATTTCCCAGTTTCTCTGCTCCGTCAAATATCAACATTTTACCAGGTT
TCTCTGTTGTTGCCAAACCTGTCATTTTTATTTGGTGTGGCTTCTTGGGA
AACTTCCATGGCCCATTTGATGGGAATCAAACAGTGAAAACAAGGACAGA
TGCAACAGAGGTGGCATCAGGAACAAATGGGTCATAAGAACTTACCTTGG
CAGCAGCCCCAGAATGGTCAGGAGGAAAGGCACTCTAAGGTATCAGAAGG
TAGAAAGGAGAGGTTGGATGATAGAATGGGGAATGGATTCCTCCTCGCGT

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TCACAGAAATGAATTAATGGGAGACACAAGGGTACCACTTAATATTCCTG CTCTCCCTAGCATGGGTCAGGGTCACTGCCCGGCGGCCGCTTTAAAGGGC

>Sequence 1011

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TCAGAGTTATAGCTAGTGGCAGTTATCAAGGGAATGCAGAGGTTTCTGTA
TTCTGAGCATGTTCCTGTAATAGGATAGATAGGCGATGTGGCAGCAACAA
CTCCCAATTCGTAATGTCTTAAAACAAAAACAAGTTTTATTTCCCATTTA
TGCCATGTTTCCAGCACAGTTTCTCAGAGGGCTGTGCTCCATGCATTTAC
TCAAGGTCTGGGAATGATCATGGCTACACTATCTTGCAGCCACCATATTT
GGAACCTGTTGCCACTCTGATGGCAGCAGAAAACAAAAGAAACCAAAGA
TCATGTATGAGCTATTCACTGCTCCAGCCCAATAGTGGTTCACTTTTTAC
TGACCAGAACTAGTCTTCCAGCTCCACCAAAACTNCACGGAAGTTCAGGA
GCCCCAGAGGAGAGAGAAAACAACTTGGGCCCGCGTACCTTGCCCGGCGG
GCGCTCGAAAGGCC

>Sequence 1012

CCCTTTCGAGCGGCCGTCCTGGCAGGTACGGGCTTTTTTGTTCTTGTGCA GTAACAGTGAGGGCATGATTAGCCATCTTTGCCAGCTGATGTCTTGTGGA CACCTGCCTTGTTACCACTCTAACAGGCCCGTGTCAGCAGCTCCGCTTCC TCCTGACAAGCTGCGAGCACAAGGGGACAGCACAATCTGAAACTCTTACAG ATACCAACAGCAACAAAAATGAAAGCAGTTATGGTGGGCAAGCATTAATC TAAAATTTTTTTTTAAAGGA

>Sequence 1013

ACGCGGGGGGTCTCACCATGTTGGCCAGGCCGGTCTCAAATTCCTGACCT CAAGTGATCCTCCCCGTCAGCCTCCCCAAAGTGCCAGGATTATAAGCAG TCACCACAATTTCACCATGCATAAATCACAACGGTTAACAATTTAGCATC TTTGCCTTCTTTTCCTGTGCACTTACGTTTTTATGTAGCCAAGATCACAC GTTGCATTTTGCTGCTTTCCTTAACAGCGTCTAAGTCATCAGCACTCTAT TGTGATGATTTATCTTAAAAATATTCCAAGCGATCATTTTTAGTAACTGT GTAATATTATATCATAAAGTTAAAACATAATTTGTCATTCAATTGTTGAA ATTTTTAGGTTACGTATATTTTCTCTTATAAATATGTAAATATGTTTATA AAAAGTTATATACAGTTTTTTATAAATCTTTGTGCATACTTTATACTGTT TCCTTAGCATAGAGACTGTGGAATAGGATTTCTTGAAAAAAGGTAAAAGT GTGAGTATGCATATACTGGTACATATATGTTATTATATAAAGGTAAT AATCTTTTTTTTTGGAGATAGAATCTAACTGCACCTCAACCTGTGTAAA AGTGAGACCCTGTCTCAACCAACCAGAAAAAAAGAAACTTCAATTAAAAT TAACCTTGGGGTTAATAAATATTTGTGAAATGTTTGGTGATCAGTATATA **CCTATAGCC**

>Sequence 1014

>Sequence 1015

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AAAGAAAATCAGTATCAAAAAATTTGGAGTTTGAGGCCAGGCACGGTGGCT CAGGCCTATAATCCCAGCACTTTGAGAAGCTGAGGCGGGCAGATCACGAG GTCAGGAAATCGAGACCATCCTGGCTAGCACGGTGAAACCCCGTCTCTAC TAAAAGTACCTCGGCCGCGACCACGCTA

>Sequence 1016

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>Sequence 1017

>Sequence 1018

>Sequence 1019

>Sequence 1020

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was the second

Table 2

>Sequence 1021

ACTTACAGTCTTAAGATATCCATACACCCCCACATCCGTCCTTTGTGCGA GAAGATTACTGAAAATTTAATTCCATTTATGTCATTGGATTTGTAAAAAA CCCCTTCTGGATTCAAAGATGAAGGCCTCACTTACTTTATTTTTGTCATT TTCACAGACCCCTTATGTAAATGCCTCAAGAGTAAGAATCTTGCTCAAGT GATTTTTGTATCTCCAATGGCTAACAAGGAGCCTGACATAGAGTAGCTGC TTGGTAAATATGTGTTCATTCATTCAACAAATACCCCCAAGGTAACCTTG GCCGGGACCACGCTAAGGG

>Sequence 1022

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>Sequence 1024

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TCAACCAAGCCTGCAATGACTAGACATTCTAAAGAGAAGAGTGATGGCAA
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TGCCATATGTTATGGCTAGGTCAGCTTTCCACAAGTATGCACATGCAAAA
TAGAACTTGGGAAAAAAATCTTTGATTTGGCCCTTTACCAAGTGGATCAG
TGTGTCAGAGTTCAGTTGAGCAAAGGTCAGAGTTTAAGTTGAATCTCCAG
TCACTCTTTTGAACATATTTGGTGATGCCAAATTAAATATAGGATATTAT
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GCCTGAGTCCGAAAAGAACTGGCCCCTGGCCCAGACTATGCACCAAGCGG
GTCTGAACATATACAAGTGATGTGAAAGAAAGAACAGATGGCGACGTACA
TAGCTCCTGAATAACATTTATTGACATGTGAGCTGGTTGGATTGAATAAAA
TGAATTTGGCTTAATAAGGCGTTCATTN

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>Sequence 1025

>Sequence 1026

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TAAGCACCCCCTATAATTTACCTATGTCATCATGCAAAATCACCATCGGT
AATAATGTGGGGGCGGGGGAAGTCTATACAAGAATATTAAGGCCCTGTGC
GTGAGCATGTCTATAGTTAAAGACTTAATGAGAAAGCATCAAATTGTGGT
GCAAACAGCTGAAAGTAGAAGTAAATCACAACGTAATAAGATGCAACTTT
GGAGGAGCTCAAAGCAACAGATACGTTTTTATCCAAAAAGGAGTAAAAGA
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TGAAACCATAATTAACTAGCGTTGTTTGTAAAATAACTTTTTTCCATTTA

>Sequence 1027

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GTTAGGTGATTTCTTGCAGCTCTTGGTATCTGCAGAATTAGTGTGAATGC
TTAAAAAATATTAACAGCTTTATATCATGAAAGTTTNAACATGTACCTGC
CCGGGCGGACGCTAGAAAGGG

>Sequence 1028

>Sequence 1029

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TCTGAGGGTAAATGAATTATTGAACTGCCTATAGGTTGCACAGCATACCT ATAGAAATGGTGGCACCAGATTTATTTTGCGTTGAGAGCGCATGTGGCTA TTTAGGGTGTACCTGCTTTTCCCAAAAGGGTGGCTAGCGTGAGCTTACCT TCTGGTATTCATGGAGGAAT

>Sequence 1030

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ATTTGGCACTGTCCATAGGTTTATGGCTTCCAACTTGTTTAAGACCATTC
CCAGAGTGAGAGCTGATTTGCCATGGTTATGAAGCTTTCAGGATATAAAC
TATAAGAATGACAAACTACAGCAGTTGAAAATGTGTCTTCAGATACTCAC
TTGCAACTCCCATTTATGTCTCTAGGGATTGAGAAATGAGGATCGAGGGA
CCAAATCTGGCTTGGTCAGTAAGAGTGTAGGTAACATATAAATATTAATG
TTCGTTGCAGTTAGTGTGGTACCTGCCCGGGCGGCCGCTCAAGGG

GGTACAGTGGTGTGATCGCAGCTCACTGCAGCCTCAACCTCCCGGGCCCA
AGCAATCCTCCCACCTCAGCCTCCCCAGTAGCTTGTTTCCAAAGAAATTT
ATTTATAAAACAGGTGTTGGGCTGGACTTGACCCGTGGGCCACAGTTTGT
CAACTGCCATTCTGTAAGCTTAACATGTGTTAATTACTGCAATCTGAATA
ACAATGCTATGATATAGACACTGTGTTCCTTTTAATAGACAAAGGAACCC
AGGCACAGAAGGATTGACTAATATGACCAAAGTCACACTGCCAGTGAGTA
GCAAGCCTGAGCTCTGAACCATGACAGTTCACATCTTCCACGACAGCAGC
TTCTCAATGCTCTTTGGAGGGACCAGAGCCCAGGCAGTAGCAACGGCTAT
GAGGTGGTGAGACATGACCAGCAGATAAGCCCTGGGCAATTGGCCAGAGC
TGGAGGGAGTGGAGAACTAGCCATNTGTGACTTTTGTGAACATCCCTGGGG
AGTCTGGAATTACCCAAGAG

>Sequence 1033

>Sequence 1034

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Table 2

>Sequence 1035

>Sequence 1036

TGTATATGGGAGTCGACCCACGCGTCCGGTTCGAGCGGTACCACGAGGAC GCACATATGCTGGACACTCAGTACCGCATGCATGAGGGCATCTGTGCCTT CCCCTCTGTGGCGTTCTACAAGAGCAAGCTGAAGACGTGGCAGGGCCTGA GGAGGCCGCCAGTGTCCTGGGCCACGCTGGCAAGGAAGCTGTCCTGTCA TCTTTGGCCACGTGCAGGGCCACGAGCGGAGCCTGCTGGTGTCCACGGAC GAAGGGAATGAGAACTCCAAGGCCAACCTGGAGGAGGTGGCTGATGTGGT CCGTATCACCAAGCAGCTGACCCTGGGGAGGACCGTAGAGCCCCAGGACA TCGCCGTGCTCACGCCCTACAACGCGCAGGCCTCTGAGATCAGCAAGGCC CTTCGGCGAGAGGGCATCGCCGGGGTGGCCGTGTCCTCCATCACCAAGAG CCAAGGGAGCGAGTGGCGCTATGTGCTGGTGAGCACCGTCCGCACCTGTG CCAAGAGCGACCTGGACCAACGGCCCACCAAGAGCTGGCTCAAGAAGTTT CTGGGCTTCGTTGTGGACCCCAACCAAGTGAACGTGGCTGTCACGCGGGC CCAAGAGGGGCTCTGCCTGATCCGAGACCAACCTCTTCTGCGCTGGTTGG CCCTTTGGCGTAACCCTCCTGACTTCTGGGAGGCTCAACAAACCCTTGT GCCTGCCCGCCAGGTGCGCGTCTTGAGGAAGCCAACTATGCCTTTCTGAA GAGCCCTTTTCACCTGCAGGTCCCAGACTGGAGGGAAGATCAGGGCCCCC

>Sequence 1037

>Sequence 1038

CCCTTTCGAGCGCCGTTCGGGCAGGTACTTTGACTATTTTTTAGCAACA
AATTACTTTTGACACACAGCACAATTGATTTAACACTTCCAATTTTGGAA
CTATTGGATAAATAATGATGGGATTTAAATAAAGCAATCCGATTCTACTA
TTACAGCATAGGGTCTCTTGTAGTCCTCTTAGTAAAAACTATTGTGACAC
TTCCTTCTTTCTCCAAATATTCGGCCTGGAAAGACCTAAATACAATGCAG
GGATTGAATCAAATTCACACATTTTTTTTCCTACGGAAACAACAACCTTT
CTTGCTTATATTTAACAAAAACTAGTA

>Sequence 1039

GGTACTTAGATCAGATGGATTGAAACATGACAGCCCCATTTCATCTGGCC GGTTAAGGTCCTCATGGAATGAAAAACACTTTCGGGCACTCTCCTATGAG AGAGAGAATGGGTTTCTTTAATTGCCAGATTGTCTGAACACAGCCTCAGC

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TACTTCTAGGAATAAGACGAAGCAGTGAGGAAGTTGCCAGTTGAGTGATT CTTGGGGAAAAAAATTAGCATTCAGTGCCAGCTCTCTAAAGTGTGGATTC TGGATTCTGGTAGAAGCCAGTAAAGAAACGTTTTCTCTGGAGTGGAAGCT AGTAAGATTTATTCTGTGGTGATGAAGCCATCTGAAACCTTACAAGCAGT GTGGTTGTATCAGCATATGGGAGCTGACTGCCTCAGGACTITGG

>Sequence 1040
ACTCTTATCAACTGTTTTATAGATGAGAAAACATTAGCCACAGCTTAGCT
TATTTGAAGTCACAATAATATTAACTAAGTAAGAGCAAAAGCCAAGATTC
AAATGTAGATTATTTTACTACAGACTGAGAAACGAATTAAACTAGGAGCC
TAAGATACTTTCTGGAATTGAAATGATACATTATATATACCTATAAAGAT
AATTGGCTATAGCTTCCTAAACTACAAATTGTCATAAAAATGACTTCTGT
CCTATATCAATTAGAAACTGGTATTAAAAATTGAGTATTATAAGACAATAG

>Sequence 1041

AATGTC

>Sequence 1042

GGTACCCTGCTTTGATTATTTCCGAATCCAGTGGGTAGAGAAGGTAAAGG CAAGGGCTCACTGGATATTTTTAAATTGTAGGGATGTCCTTTGCTCTGGG TCAATTTTAGGATCAAATATAAAAGCACCTATAGCTCAGAGTATCTTCTA ACATAAAACTTCTGAGATACCAGAAATTTTCCAAAACATGGTATAAACAG TATGAAACACTGGGTAGATAAAAGCTTTCTCTAAATCTTAAAGTGCTCAA ATATCATGACCTGATTTTTTAGTTTTAGAAATCAGATATTTTTCTATTCC ATATCTTAAACTTTN

>Sequence 1043

>Sequence 1044

>Sequence 1045

>Sequence 1046

ACAGCACTITCAAAGTAGTGGAATATAAATCITTCCATTTAACAGCAACA TTCAAATATTTCCCATTCTGCTTATTATTCCTCTCTGAAGGTGATACATA GAAATATAGGAGCAAACACAGCAATGCAGGCGCTCTATGATCTGGTTTGC TCACATAGATCTTAAAAGGAGAAGAATGAGGGATTTGCCTACAACCCACA GCCAATCTATGTGGACACAAAGGGTGACTTCTTCCTTCTATTACGTTCCT

Page 62 (of 261 pages in Table 2)

TGAGGTAGAAATGGTAAACTAGCATGACCTCGAATCATAATTTAATATCA

>Sequence 1047

>Sequence 1048

ACAACACTTTAAAAAGTGAATTATAAGCTATGTGAATATCTCAATAAAAA CATTTTTTAAATAAAAACAATTCCCAAAGGCCTGGAAATTCAGGAACATA ATTCAAAATAATTTATGGATCAGAAAATAAATCATATAAAGATCTGAGAA CTACAATGTAAAAATATAGAAAAAAGTCATAACACTATTAGATAAAAATC TGAGCTGGATAACAAAGATAGTACC

>Sequence 1049

ACCTATAAACAAAGGCATCATAAATAGATATAAAGCCAGAAGAAAAGGGA TCTAAAGTAGACAGAGAAGATAGGCTGACTCTCCAGTTGCAGATTTTCAT TATCAGCTCATCACACCACCGAAACTCTCTGGTGATFTGCTATCGAGATC CATGGCGTTTGGTGGCCCTAAAGATTGTAACGGCCCCCATCCTCTTGGTT AAAATGGCAGGTGTGTTGACAAGAACTGTCTTAGGTACC

>Sequence 1050

ACCTCTCATCTCCAAATCAACTAGACTCTTATGTTAAGAATACTAACAAG AAAAAATCCAAACCCCCAATAGAAAAATCCCCAACAACAACATATACCCT TAAACACAAGAATTGTATTATTCAATGAAAGCAATACAAGTAAACACAAC AGTTACCTTGGCTATTTTTTCAATGTACC

>Sequence 1051

>Sequence 1052

ACGCGGGTATAGCTATATACTCATATTTTTATTTTTATGTAAAATTTCA
AAATGCTTAATATGGCAGTATAATAATTATAACTAGATTTACTTCAAAAC
ATAGACATAAAGAAGATTACATGCCTGTAGAAGTTCATTGAATTAGGAAT
CACATGCTATTTATTTTAGCAGATATCTTCTTAATTAAATGTTTGACCCA
TGTGAAGTCATTTAACAGATCTGTTACGCATTATTCACATATGCAAAATA
ATCTATATGATCTGAATACCATTTCCATCTTTAAAATTACATATTCCT
>Sequence 1053

>Sequence 1054

ACAATGAAAATTACAAAATACTGTTGAGAGAAAATTAAAGAAGACAAATAA ATGAAAAGAGACGGAACATGTTTTCGCTTGTAAAACTCAGTAGGATTAAG ATCTCTTCTCCCCACGACTCTATAGCTTTAAAGCAATCAAAATCAGACT GGTTTTGTCTGAACGTTTTTGAATAAGTCAATGGCTTATTTCAAAATTCA TATGAAATTTCAAATGCCAAAGAATAGGCAAAATATTTCAGAAAAGAAGA

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Table 2

AAGATTGAGGATTTGCAATAACTGACTTCAAAACTCACTAGAAGAACGAG GCCAGACTGCCCAGGGT

>Sequence 1055

>Sequence 1056

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TAGACATTACGTAGCCTCAGAGTTGAATTTGGACTGCCCTTAAAATAAAA
AATTCTTAAATCTTTAGTGTGGTGTCTATTAATTTTTATGATGATTTACA
AGTTGGAAATGATTACTTTGCAAGTCATAGTTTACTTTGAAGTTAATAAG
AGTGATTACAGTAAAGGAAAAATGCCATATATGGCATTGTTCTTAACAGC
TTATGAAATTTGGAAAACGATATTTTAGAAAGCTTTCTCTTGTTGGCTGG
AATGAAGTGGAGACCCTGCTG

>Sequence 1057

ACAGCTTGTTCAGGATATTTCTTCTATTTTTCTTTGAGTTCTTGATATTCTAGTTAATTTCTAGTTAATTTCTAGTTAATTTTAACCAATAGACTTT
TGTCTTCCTTCTGCTTATGTATTCCTCGTAAATGCTTTTTTGTGACTTGTC
TAAGTATAAACAACTTTACTATTAGCTGTAAAATTTTCATTTTTAGTATG
TCATCAATCTTTTTTTTGTGTTTAGTATGATTTAAATGTTTTTCACTTGGAA
AGATATGAATAGTCTACTTCATTGATTTTTTTTAAAGTCATTTCATTTTT
TATTTTTGTAGCTACAAAATCATAAACN

>Sequence 1058

>Sequence 1059

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Table 2

AGGCTTATAAATTTGGTCAAAAAGGTGGGGGGGGGATATAGGGCCCCTTAC CATTATATGTGATTTTTAAAATTGGCAATCATGTTTT

>Sequence 1060

>Sequence 1061

>Sequence 1062

>Sequence 1063

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Table 2

ACTTACTACAAGCAGCAAAAGGAAGCTCTAGAACAAGGAATTAAACACAG
TGTTTGTTTCCAATCGCAGAAGAGGCCATGAGCACCATATGTGTGTCAGG
CTTATCATCTGAACCAAAGAAAGGCCAATCCTTCACCTTTCTTATGACTC
TTATAGGCTGCAATATTTCACTTGGCCATAAACAACTTAATATCTCACAC
CTAGTAGTATTCAGTGACACAGAAAGGGAAAGAGAAAGGATGAAGAACAG
AGGAAAGAGAAATAATTTCCCAAGATACAAATTTAATATTCTTTCCAAAG
CATAAGAGCAATTAAAAAAATATTTCTTGTTGTAGTTGTAGGATGATTT
TTCTACATTATTGNTCAGACATCCTGGANATAATATCAAACTTTGTAAAG
AACACAAAATATTTTTATTTTTTAATTAAAAAAACAATCCTTCTAAAGGGG
TTTAAGAGCTTTGAACACAGGCCTTAGTAAAAGTCCCTTGGCCGCAACCA
CCTTAAGGGCGAATTCACGACA

>Sequence 1065

GGTACATTGAAACAATATAGTAGTCTTCCCCTTTACAAAGCTGAATTAAA GTAAAAGTGTGTTTGGNGAATAATAGGGGAATGTNGGATTGGTAGCTGT TTAATANAAGATTTAGGATACATTATAAAATTGCTTAAGGGCCAGGCGCT GTGGCTTTACGCCTATAATCCCAAGCACTTTGGGAAGGCTGAGGTCGGGT GGATCANCCTGAGATCAGGAGTTCGAAGACCACCCTGTTCAACATGGTGA AACCCCATCTGTACCTGCCCGGCGGCCGCTCGAAAGGG

>Sequence 1067

CCCTTAGCGGCCGCCCGGGCAGGTACCCTCCGTGACTTTTCAGGGTCTCC TGGTTGAATGAATTTGCAGAAGGATTAAAATGTGTGTTCTTATTTGTGCC TTTGTATTTCTCCCATTAAGTAGTGTGTTGGAGGCTTATTAGAATAAGCT GAGAAGGGTAATAACATAAACACATACCGTAGGCAGCCCTGACATTAAAC ACATNAGGTAGGAGCCTGCCATAAAGCACCGTATGTAAAGAACTAAAAGG GGTGTTGTTTCCATTTTCATGTGTCCAAGCCTTCCTTCCATACTCTCGAG ATGACAAGAACACAAAGTTTGCTGAGCTTCACACCAACTAATTGACTAAA TCCAGAAAGTTTGGAACATGCGAGAACATNTTTTCCTTTTGTTACAAGGG TTATCTAATTAATGTTGGACATTTTAAAAATCCACAAGTGTGGATAATCT TGTGAAGTTTCTGATTTAAACAGAATCATGGTGAAAAAGGGACCTTATTT TCAAGAAATCTTGCATTATAAAACCCTAAAAGTTACCTTCGGGCCGGCG CACCACCNCCTTAAAGGGCAGAATATTTCCAAAACCACTTGGGCGGGACC GTTAACTAATTGGAATTCCCAAACTCTGGGGTACCCCAAGCGCTTTGGCG GTGAATTCAATGAGGCATTAAGGCCGGTTTCCCTTGTGTTGAAAAATGGG TATTCCGCGCTCCCCAAATTTTTCCCACAATAACATTTCTGAAGCCCGGT AAAGCCTTTAAAGAGTGTAAAAAGCCCTGGGGTGTCCCTATTTGGGGTGG ACCTTAACTTTCCACTTTATGGCGGGTGTGGGCTCCTTTGTACGGGTTTA ATATTAGAAAAATTTGGGGGCCGTAATCTAGGGGATCCCCT >Sequence 1068

> Page 66 (of 261 pages in Table 2)

GCAGACATCATTCTATTATCTCAACCTTGCTTTCTCGGATCCAAAGCCAA GAAGTTGCTGTTCCATGCCCTTAGAGCTCTAATTTGGCACCTTTTCCTGA AATGAAAGCTTGAAAGGGCTTTTTGCTTTGGTGAAACCGGTTCGTGGCCC GGGCAAATTCTGGTGGTTTCGCGTCTGTCAGTGGGTCCTAATAACTGTTA TAAGTGTGGTTCTTGGGAACATTTGTAAAATATTTTCTATTGGTCACACA CCTTTTCTGTTTAGACATTTATTTTTAACACAGACAAATGCTTAAGTGTT CCCGCCCCAGGGTTCTTAACTT

>Sequence 1069

GGTACCCTGCTTTGATTATTTCCGAATCCAGTGGGTAGAGAAGGTAAAGG
CAAGGGCTCACTGGATATTTTTAAATTGTAGGGATGTCCTTTGCTCTGGG
TCAATTTTAGGATCAAATATAAAAGCACCTATAGCTCAGAGTATCTTCTA
ACATAAAACTTCTGAGATACCAGAAATTTTCCAAAACATGGTATAAACAG
TATGAAACACTGGGTAGATAAAAGCTTTCTCTAAATCTTAAAGTGCTCAA
ATATCATGACCTGATTTTTTAGTTTTAGAAATCAGATATTTTTCTATTCC
ATATCTTAAACTTTCATGTTAAATTCTAGTTCTGACAATGTAGGGTTCTA
TTTTTTTCAGGTGATTGTTGGGAGCGTATAGAAGCATATATAAATATGGA
ATATGTGTTTCTTTTTTCCCCTTCTGAAAGAAAGTCAAGCCTCTAATCAA
ATAGATTGATGCTTCAGAAACTTAACAGAATATTATCTGCAATTTGGCAT
AAATGCATNTTTCTTGGGGAAGTTTCCATGGTCAAAATTATTAGTCATTG
CAAAACAGAAAAGTTTGACAACTGGAAATGCAGACNCTTTTGCTTGATTN
TGTAAAGACAGGA

>Sequence 1070

>Sequence 1071

>Sequence 1072

GGTACTTTTTTTTTTTTTTTTTTTTTTTTTTTGGACGGAGTTTCACTCTTGTTGC
CCAGGCTGGAGTGCAATGGCGCAATCTCAGCTCACCACAACCTCTGCCTC
CCGGGTTCAAGAGATTCTCCCGCCTCAGCCTCTTGAGTAGCTGGGATTAC
AGGCATGTGCCACCATGCCTGGTTAATTTTGTATTTTTAGTAGAGACAGG
GTTTCTCCATGTTGGTCCGGCTGGTCTCGAACTCCCGACTTCAGGTGATC
CTCCTGCCTTGGCCTCCAAAAGTGTCAGGATTACAGGCGTGAGCCACCAC
GCCCTGCTTAAGTTTTAATAAGATCTCTTGGCAACTTTTTACGACTGGCA
ACTTAGGTCTCACAAACACAGAAAAGCTTGTCTTTAAGTATATTGTCTTT
GAAAAGTTAATACACTCTCTAAATGCTCCATTTAAAATGATTTACTTTAT
AAATGCATGCACTGAGAGAAAAGATATTTGAATGATATACANCCACATGT
TAAATTAACTGTGATTGTTTCTAAGTATTTGGCACTATGGTCAATTTTCTT

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TTTCTTGTTTATGCTTTTCTGAAGTTTTCAACCCCCATAATAAAGATGTA
TCTCTTCT

>Sequence 1073

>Sequence 1074

GGTACTGGGTCACTCTGCCCCAGCTCTCCAAAGGCATCAAGATCCGACTG CTAGGAGCCCGGCTTCTTCCCTGACCTGCCGTCTCCTACACCCTCTGG TCCTGCTCCACACTGGTCTAATAACTGGTGTTCCACATTCCTCTAACGTG CACAACACAGTCCTGCCCCCGTGCTTTTCACCTCCTGTCCATTCCTCTTA TAACGCTCTTCCCCAAATCGCTTGCCCATGGCTTGTTTGCTCATCTCAAG GTAGAAACAAACTGTCGCTCAATCAGCTAGAGCCCTCCCACTATGCTCCC GCGTACCTGCCCGGGCGGCCGGTCAAAGGG

>Sequence 1075

>Sequence 1076

>Sequence 1077

GGTACAGAGTAACCATGACTTACTAGGTGTTATGATGAAGGTGTATGTGT GTGTATATGTGTGCATGCATGTNATAAGTGTGTGCACTTTGCACACATAAG

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>Sequence 159

TGGCTATTGAGACCTCACCGCGGTGGGGGCCGCCCGGGCAGGTACACAGG
ACCAATGCTGCCCATCCACATGGAATTTACAAACATTCTACAGCGCAAAA
GGCTCCAGACTTTGATGTCAGTGGATGATTCTGTGGAGAGGCTGTATAAC
ATGCTCGTGGAGACGGGGGAGCTGGAGAATACTTACATCATTTACACCGC
CGACCATGGTTACCATATTGGGCAGTTTTGACTGGTCAAGGGGAAATCCA
TGCCATATGACTTTGATATTCGTGTGCCTTTTTTTATTCGTGGTCCAAGT
GTAGAACCAGGATCAATAGTCCCACAGATCGTTCTCAACATTGACTTGGC
CCCCACGATCCTGGATATTGCTGGGCTCGACACACCTCCTGATGTGGACG
GCAAGTCTGTCCTCAAACTTCTGGACCCAGAAAAGCCAGGTAACAGGTTT
CGAACAAACAAGAAGGCCAAAATTTGGCGTGATACATTCCTAGTGGGAAG
AGGCNANATTCTACGTAAGAAGGAAGGATCCAGCAAGAATATCCAACAGT
CAAATCACTTTGCCCAATATGAACGGGGTCAAGAACTATGCCAGCAGGCC
AGGTACCCTTGGCCGTCTAGACTGGTGGATTCCCCGGCTTGAAGAATTCC
ATTTTAAGCTATTATTACGTCAACTTGAAGGGG

>Sequence 160

TGGATGATGNATTGGTAGGCCTCATCGCGGTGGCGGCCGCCCGGGCAGGT
ACACAGGACCAATGCTGCCCATCCACATGGAATTTACAAACATTCTACAG
CGCAAAAGGCTCCAGACTTTGATGTCAGTGGATGATTCTGTGGAGAGGCT
GTATAACATGCTCGTGGAGACGGGGGAGCTGGAGAATACTTACATCATTT
ACACCGCCGACCATGGTTACCATATTGGGCAGTTTTGGACTGGTCAAGGGG
AAATCCATGCCATATGACTTTGATATTCGTGTGCCTTTTTTTATTCGTGG
TCCAAGTGTAGAACCAGGATCAATAGTCCCACAGATCGTTCTCAACATTG
ACTTGGCCCCCACGATCCTGGATATTGCTGGGCTCGACACACCTCCTGAT
GTGGACGCAAGTCTGTCCTCAAACTTCTGGACCCAGAAAAGCCAGGTAA
CAGGTTTCGAACAAACAAGAAGGCCAAAATTTGGCGTGATACATTCCTAG
TGGAAAGAGGCAAATTTCTACGTAAGAAGGAAGAATCCAGGCAGAATATC
CAACAAGTCAATCACTTGCCCAAATTGAACGGTCAAGAACTATGCCAGC
AGCCAGGGTCCTCGGCCGCCTAGAACTAGTGGA

>Sequence 161

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>Sequence 162
GGCGGCCGAGGTACCTGGCCTGCTGGCATAGTTCTTTGACCCGTTCATAT
TTGGGCAAGTGATTTGACTGTTGGATATTCTTGCTGGATTCCTCTTTT
ACGTAGAAATTTGCCTCTTTCCACTAGGAATGTATCACGCCAAATTTTGG
CCTTCTTGTTTGTTCGAAACCTGTTACCTGGCTTTTCTGGGTCCAGAAGT
TTGAGGACAGACTTGCCGTCCACATCAGGAGGTGTGTCGAGCCCAGCAAT
ATCCAGGATCGTGGGGGCCAAGTCAATGTTGAGAACGATCTGTGGGACTA
TTGATCCTGGTTCTACACTTGGACCACGAATAAAAAAAAGGCACACGAATA
TCAAAGTCATATGGCATGGATTTCCCCTTGACCAGTCCAAACTGCCCAAT
ATGGTAACCATGGTCGGCGGTGTAAATGATGTAAGGATTCTNCAGCTTCC
CCGTCTCCACGAGCCTTGTTTACAGGCTTTCCACAGAATTAT
>Sequence 163

TTATTATCGATGCGCACCACGCGTCCGGGTGGCTCTATGTAGTTCTAATT
TGCATTTCTCTAATGACTAACGATGTTAAACATATTTTTATGTACTTGTT
TCATGTACTTGTTGATATGTCTATTCAATTCCTTTCACCATTTTTATGGA
GCTGTTTTTTTATTATTGAGTTGTAGGATTTCTTTATATATGCTGCATAC
CAGGCCTTTGTTATATACATGCTTTGCAATGTACATTGTCTTAAAATCTG
TGGCTTGCCTGTTCAATTCATTAGTGGTGTTTTTGTTAAGCAGTTTTTAAT
TTTGATGAAGTGTAACTTATTCATTTTTTATTATGGTTATTGCTTTATGT
TTCAGGTCCCAAAATTTTTGCCTTCAAAATTATCCTAATTTTCAATCTCAAAAATTTC
TCTAATTTTTTTGCTGATTTATTTACTAAAGAAATTTGAGGGATTTGCTA
TAATGTTAGGGATTTTTCTAGATGCCACT

>Sequence 164

>Sequence 1078

>Sequence 1079

GGTACAGCTCACATTCATGGGGAGGAAAATCAGGGCCTGTCTTTAGATAG GAGATGTATCAAAGAATTTGTGGACATATGTTAAAATCACAGCACTACTC TTGATGT

>Sequence 1080

CGATATGGGAGTCGACCCACGCGTCCGCTGCCATCGCCCAATGGGCTCAT
AAACAAAGTGGCCATGGTGGCAGGATAGACTTTCTCAGCAACATGGACT
TTCACTCACCAAGGCAGACCTGGCTACAGCCACTGCTGAGTGCCCCATTT
TCCAGCAGCAGTGCCCAACACTGAGCCCTTGATATGGATCATTCCTTGGG
TGATCACACAGCTACATGGTGGCAGATTGATTATATTTGGACTTCTTCCAT
CATGGAAAGGGCAGAAGTTTCTCCTCCCTGGAATGGACACTCCAGATATG
AGTTTGCCTATCCTACACGCAATGCTTCTGCTAAGACTACCATCTGTGGA
TTCACGGAATGCCTTATCCACCGTCATGGTATTCCACACAGCATTGCCTC
TGACCAAGGCACTCACTTTACAGCTAGTTGCACAGTGGGCTCATGCTCTT
GGAATTCACTGATCCCACCATGTTCCCCACCATCCCGAAGCAACTGGATT
GATAGAATGGTGGAATGGCCTTTTTGAGTCACAATAACAATGCCAACTAA

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>Sequence 165

>Sequence 167

>Sequence 1081

TCTTCCATACTTCGTAACTCTATACATTTACCATTGTTATCATCTACTAT **AATTATCCATCTTATACTTCCGAACTCGTTTAATAGTATTTATCTAATTA** TTATATAATTTCTATTTATAAATTACTTTCNACTGCNAANAGCCNTTGTG TTTTTATCCGCCTGACGAACGCGCAGGNACCGGCATCAGCATTAGTAATC AACCTGTTAATCCAAGGTCTTTAGAAAAACTTGAAATTATTCCTGCAAGC CAATTTTGTCCACGTGTTGAGATCATTGCTACAATGAAAAAGAAGGGTGA GAAGAGATGTCTGAATCCAGAATCGAAGGCCGTCAAGAATTTACTGAAAG CAGTTAGCAAGGAAAGGTCTAAAAGATCTCCTTAAAACCAGAGGGGAGCA AAATCGATGCAGTGCTTCCAAGGATGGACCACACAGAGGCTGCCTCTCCC ATCACTTCCCTACATGGAGTATATGTCAAGCCATAATTGTTCTTAGTTTG CAGTTACCCCTAAAGGTGACCAATGATGGTCACCCAATCAGCTGCTACTA CTTCCTGTAGAAGGTTAAATGTCATAATTCTTAGCTTTTCAGGAATAACT TTACCCTGGCACTATTAATGAAAGCTCTACCGGGGTGCCTATGTCTTAAG GGTGGTTTGGACCTGCTTCAAATATTTTCCTTCACCTTTCCCATCTTCCA GGGGTCCTTGGGCGGTCTGAACTAGTGGGATCCCCGGCCTGCAGGAATCC ATATCAACTTATATGTCCCGCGCCCTCAGGGGGGGCT

>Sequence 166
TTCTATTATTCGTTGATCGACTATTCCTTCTTCGGTNTATTGATTGAACA
GTATTCATTACTTCTATTACTTCTTTTTATACATCCATTATCGTCTGTTT
ACGATGTTTATCTATTATTATGTTCCTACATTATGTTTATTACNNNNAAG
GGTCGTTGCTTTGTAGCGCNCTCTCCNAGTGGCGGCCGNGCGGGCAGGTA
CTTGCTCAGCCTTGCCAGGCCCCTCTGATGAGCTCTCTAATCAGCAGGAC
CAAGGTGTGAAGTGGGAATGAACATGGATCCATCCCATTGGATGAGAAG
AAAGGTGGACAGCCTGTTCGTCTCTCATGTCAGCCTAGGGCTGGGAACAG
TTTGTGAGGACTTATCTGTTGTACCT

CCGCCCGAAGTACGTNTCCGCTAATATTGATGCAATTTCTACGTTATT
CTCAACTCGTTTTCATGTTACTTATATGACATCTACATCATCAGTTTATA
GTACATAATATNTNTTNNAATGTATGTGCTGGTAGCGGGCTGNCGNCCGG
GCAGGTACGCGGGATGGCACGTGCAGCGCAAGTAGGTCTACAAGACGCTA
CTTCCCCTATCATAGAAGAGCTTATCACCTTTCATGATCACGCCCTCGGA
ATCATTTTCCTTATCTGCTTCCTAGTCCTGTATGCCCTTTTCCTAACACT
CACAACAAAACTTACTAATACTAACATCTCAGACGCTCAGGAAATAGAAA
CCGTTTGAACTATCCTGCCCGCCATCATCCTAGTCCTCATTGGCCTCCCA

CTTGTCCTTTCACTTCACACATTTTTCCAACTTCTATCTTAATATCACAT

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TCTCTATATTTTCTTTTTTAATATAAATATAATATAGTCTATCATATTGT ATTAATNNNNNTGTTAAGTGTGCTGTAGCGGGCCGCCGCACGCTGGCAT TGCATCTTCAGGAGACGCTCGTAGCCCTCGCGCTTTTCCTAGGACAGTTC GCGGAAGAAGTGGCTCACGCCTTCCAGAGCCACATCATCGCGGTCGAAAT AGAAGCCCAGAGAGAGGTAGGTGTAGGAGGCCTGCAGGTACCT

CCGTGTGCCCATTGANANTCTGNCTTACCGNGGNGCCGGCCGCCCGGGCA GGTACTTCCACTATTATTGAATGTATTCTGTATTATAATTGTATATTTGA TTGCCTATCTCCCCTCAACTGCATTATACATTTTCATGGGTGAGCCAGTG TCTTTTTCACTCTATTTCAGTGCCCTGCACATTTTCTGGCACATAGTAAG CATNCCCATGAGTNATCTGATGNAATAAATGTANTTTCCCTAAATTCAGG TTCAGTATNCCTTAATCTGNAAAATACTAAAATCCGAAATGCTCATAAAA TTCAAAGCTTTTTTGAGGACCTGACCTCGTGCCTCAAAGGAAATGCTCAT TNGGAGCATTTTGGACCTTCAGAATTTTCAAGATTANNGGGATATTCATA CCCGTAAGAATAAGTGCTCAATATTTCCCAAAATNTNNCAAAAAAGTCT TTGAAATCCCCAAAACAACTTTTCTGGTCCCCAAGGTATTTTTTGGAAAT AAGGGGATTACCTCANACNNCTTGTACCGTNNAAAATACCCATGCANNNT ACTINITICGATTAGGCACCCATGTGAAAGGGGTATCTTTCTCTTANNAAA TTGANACCCTCATTGGGNNTTTCGTTCTTCAAGCCAAAACTTGACCCTGG GGEEECACTTTCAACATGNNNGCTTTTAATTCCGTGCCCTNGGATGTTAA ATGGCCATGGTTCCTCTTTTTTTACCACATAAATTTCAATGGCCCCATCA AGATTGAATATTCACATTTCGACCATAACACTGGCCATTCAAGGTCCCTT CAACAAGCCCACTCATAANGGTTTTCCTCCTCTCTCCATCCAATTTTTGG TTCCTTATGAAAATTTCTACCTTTGGCTTTCCCCCAGGAAACCTTTAAGT AGGTTTCTCGGTCAGGTCCCGCAACACCACCGCAACGCGGGGTCCTCCGC GTAACCTTCGGCCGGTTCTAGACCTAGTGGGATCCCCCGGGCCTGGAGGA **AATTCGAATTCAAGGCTTATCGATTCCG**

>Sequence 170

>Sequence 171

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AGAATGACCCCTTACGCGTGGCGGCCGAGTACGCGGGATAGGTGGAAAAA AACACTGCCATTCACAAGTCAAGGAACCCAGGGCCAGCTGGAAGTGTGGA GCACACATGCTGTGGAGCACACATGCTGTGGAGATTGCAGTGTCTGAG GTTTGTGTAGTAGTGGAAGATTTTAGGTATGTAGAGCAAGTTGAAATGGA TTGAGACTGCATGGGGGCATAAATGAGAAATTGCCTGTAGCATCTAGTCT

ACTTGAAGGAAGTGGAGACATAAGGAGAGACAAAAACAGGTTTGTGCCAT AAAGTATTTTTTCAAAGACACCAAGATGTGGGTAAATGAAAATTATTAGT TCACTTCCCTGCTGGCATGAAACTTTGCCTTAAGAAGGGTGGCTGGAATT CCAAGGTTTGGTAAAGGGCAATTTTGGGTAAAGGACTGGCTTTTTTGAAA TGCCTTATG

>Sequence 174

AATCAAGCGCATTATTCGTATTACTGTACGTAATACATCGACGTCTGCTA TATTATTGTATCTATGAGGCTATNTATATATTTANNNNAAGTTTGGTGTG CGCGACCGGCCAGGTACCAAAACCTGGGGATTAAGCTAAGAAGTCTGGTG GAGAGACTCTGTGGACGTAAAGAAGGGAATGAACACAGAGAAACTTTCAG CCAGATTCCTGAGTGTCACCTGAACAAGAAAAGTCAAACTGGAGTGAAAC GACAGGGACATGAGAGCTCATGCTGGACACAAACGATCTGAGTGTGGTGG GGAATGGAGAGACGCCCCGGAAACAGAAACAACATGGGAAAGCCTTCA TTTCCCCCAGTAGTGGTGCACGGCGCACAGTAACACCAACTCGAAAGAGA CCTTATGAATGCAAGGGGTGCGGGAAAGCCTTTAATTCTCCCAATTTATT TCAAATCCATCAAAGAAACTCACACTGGAAAGAGGTCCTATAAAAGGAGG GAAAAAGGTGAGAGCCTTTACAGTTTTCAGTTTCTTTTGAAAACATGGAA AAATGCATACTTGGGAAAAAACGCTATGAATGTAAATACTGTGGAAAACC TAATCGGTTATTCCAGGTTATTTTAAATTCATGTTAGAAATAACACTGGG GAAAAACCTACCAAAGGTAACCATGGGGGAAAGGCTTTATTTTCCGAGGG TACCTTTGGGCACATTGAAATAAAACTTAACCGGCTGGT

>Sequence 176

CCGGCCAGGACGCGGGTGCTGTGAAGAGCTTTGCATTGTGGGAAGTCTT TCCTTTCTCGTTCCCGGCCATCTTAGCGGCTGCTGCTGGTTGGGGGCCG

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Table 2

TCCCGCTCCTAAGGCAGGAAGATGGCGGCCGCACAGAAGACGAAAAAGTC GCTGGAGTCGATCAACTCTAGGCTCCAACTCGTTATGAAAAGTGGGAAGT GCCT

>Sequence 177

>Sequence 178

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CATTTTCACTAGTTCAGGATAGGAATATTCATCAGATTGTCTCTGTAAAA
GTGAATCACAAAAATTCCACCTGTGTAGGTGTGGGACTGGACAGCTGAGT
GACAGGGCCCTGGGAAGAACAGAAACCACTTTTCCTCTTTCCTCTGAAAT
ATCAGAAGTTAAAAATCTACTCTGAGTTATATGTGCATCAATTTTAGACA
TATTGCTGATTTTATTATGAAAATGAAGTGCTAAAGACAAAGGATATTTC
CATTCCTCTGGACAGGCAGCCACAGACCAGCACTGCTTGACCCATGTGTA
TACACATGTGTGCTTTGTACCT

>Sequence 179

>Sequence 180

TGANAGATTTGCGGNGGCGGCCGAAAACTGATCAGACTGTCTCAGATCAA
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GGGTTATATTGAAGAAGGTTACGCCACAGAGTGTGAATAGTGGAAAAACC
TTCAGCATATGGAAACTGAATGATCTTCGTGACCTGACACAATGTGTGTC
CTTGTTCTTATTTGGAGAAGTTCACAAAGCGCTCTGGAAGACGGAGCAGG
GGACTGTCGTAGGGATCCTCAATGCCAACCCCATGAAGCCCAAGGATGGT
TCAGAGGAGGTGTGTTTATCTATCGATCATCCTCAGAAGGTCTTAATTAT
GGGTGAAGCTCTTGACCTGGGAACCTGTAAAGCCAAGAAGAAGAATGGAG
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>Sequence 181

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AACCATCCTTGGGCTTCATGGGGTTGGCATTGAGGATCCCTACGACAGTC
CCCTGCTCCGTCTTCCAGAGCGCTTTGTGAACTTCTCCAAATAAGAACAA
GGACACACATTGTGTCAGGTCACGAAGATCATTCAGTTTCCATATGCTGA
AGGTTTTTCCACTATTCACACTCTGTGGCGTAACCTTCTTCAATATAACC
CCAAATGTCACCCAATCTATTTCTTCCAGCTTCTCTCTGGCCATCTTTTC
CTTGATCTGAGACAGTCTGATCAGTTTT

>Sequence 182

>Sequence 183

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>Sequence 186

TGGGCCGATGGAAGCGCTCACCGCGGTGGCGGCCGAGGTACTCACAGTCACGCAAATTCACAGTCTGCGTGCACGGCTCTCCATTCTTCTTCTTGGCTTT
ACAGGTTCCCAGGTCAAGAGCTTCACCCATAATTAAGACCTTCTGAGGAT
GATCGATAGATAAACACACCTCCTCTGAACCATCCTTGGGCTTCATGGGG
TTGGCATTGAGGATCCCTACGACAGTCCCCTGCTCCGTCTTCCAGAGCGC
TTTGTGAACTTCTCCAAATAAGAACAAGGACACACATTGTGTCAGGTCAC
GAAGATCATTCAGTTTCCATATGCTGAAGGTTTTTCCACTATTCACACTC
TGTGGCGTAACCTTCTTCAATATAAACCCCAAATGTCACCCAATCTATTTC
TTCCAGCTTCTCTCTGGCCATCTTTTCCTTGATCTGAGACAGTCTGATCA
GTTTT

>Sequence 187

> Page 75 (of 261 pages in Table 2)

CACTTGACGGTACCTTGGGCGNTCTAAGACTAAGT

>Sequence 188

GGAGGATGTGCANNNTTNTTTTGAANANGCGACTCCACCGCGGTGGCGGC CAGATGCATCACAAAAGCAGAAGTGCCCTTTCAGCTCTTCTCTGTGCCAT TCCTTGTCAATTTCATGCTGCCTACAGCAACAGCATAATACTGCAAACAG CCATGATGTCANCTCGAAGTGNTCTCTGTGATTGACAGAGAGGGACACGT CGTAGTCAAGAGGTGTGCTCCTCAGAAGAATATCAGAACTCAACTCGCTG CTCTGCATGAAGAGAGCNAGCGGATGGGAAGTGATACTAGGTATGTAAAG GATGGTCAGTTACCTCTAAATGTAAGTTAGACCAGGACAGCCAGAATCAC CGAAGGTCTTGGTTAAGGTCCCTCTGTAACAAGGCCGTAGAAGGCCCAGA AATGTNGGTGACAGCGAGACACNATTTCTTAAACTCTTACANCTTGTTGT AAATGAGTAAGAAAGGTGACANTTTGTTTTGGAAAATCCCCCTCCCCAGC CCTTTTGTTTCCCAAGAAACTCAGTTATTCAATTTTTCCTGGTGCCCTAA CATACAGTAGTTCCCTTAAGATAAAACACTACCTACTTGCAACAAAATCA TNAGAAGTGCCAGAGCCATTACCAAGATGGGTTACCATAAGAATTAAAAA **AATATTATTGCAAAAAAAATAAAGGTTCTAAAAGTTAAAAAATGGGATTA** AGATGGTAACTCTTACCTAATTCCCTAAAAATGGCTTGTTATTAACCGAA CCGCCTTGGTACAAAACACCGTGGTTTTAATCTACCGGAAACTTTGGTC TTAACTTCCCTTCCTCCTGACAATCTTAAATACCT

>Sequence 189

CCGGGCAGGTACGCGGNGAAGGAAAGCAGCTGCAAACTTCCCATCTGCAG TGTTTGTTTGTCTCGGCTCCGGCCATCACTGCCACGATTACCCCTGGATG AATTCCTCAGTGGAAATATCAACAAGACTCAGCCCACCTGCACCCAGGTG ATTAAAAAGCTTTATTGCTCACACAAAGCCTGTTTGGTGGTCTCTTCACA TGGACGCGCGACATTTGGTGCCCTGACTTGGATCAGGGGACCTCCCTT GGGAGATCAATCCCCTGTCCTCCTGCTCTTTGCTCCGTGAGAAAGATCCA CCTACGACCTCTGGTCCTCAGACCAACCAGCCCAAGGAACATCTCACCAA TTTTTAATCAAGAATATTCTGTGAAAAAGACTAAGATATCAGAGAAATTA TTAGTGCACATTATTAGAAGAGAGCTTCAGATGAAAATAAAGATCAAGAA AAGACTCTTGCTTTGAGAAGACACAAAGAAATCACATCATCTTATTGGGA TTACTGGCTAGCCATATGCAGAAGATTGAAGCTGGTCCCCTTCTTACACC ATATACAAAAAGCAGCACAAGATGGATTACTTAAATGTAAAACCCAAAAC TATAAAAACCCCTGGAGGACAATCTATGCAATACCATTCTGGACATATGA AAAAGCAAAGGATTTCTGTGCAAAACACCAAAAGTTATTTGAACCAAAGC CAAAAATTGACTGGTGGGATCTAATTAAACGTGAGAACTTCTTGACAGCC AAAGGAAATTGCGGCCGAGTAAATAGACCATCTTAATAATGGGAGAAAAT ATTTGCAAACTATGCTATCTTCAAGGGCTTATTTTTAGCCTTTATAAGGT TGTTTCCAAATTCCC

>Sequence 190

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GAAAAGTTTGGTCGAGGAGTGATAGCGGGACTCGTTGACATTGGGGAAAC
TTTGCAATGCCCCGAAGACTTAACTCCCGATGAGGTTGTGGAACTAGAAA
ATCAAGCTGTACCCTGATGCTACAGACGAGGACATCACCTCACACATGGA
AAGCGAGGAGTTGAATGGTGCATACAAGGCCATCCCCGTTGCCCAGGACC
TGAACGCGCCTTCTGATTGGGACAGCCGTGGAAGGACAGTTATGAAACG
AGTCAGCTGGATGACCAGAGTGCTGAAACCCACAGCCACAAGCAGTCCAG
ATTATATAAGCGGAAAGCCAATGATGAGAGCAATTCCGATGTGA
TTGATAGTCAGGAACTTTCCAAAGTCAGCCGTGAATCCACAGCCATGAAT
TTCACAGCCATGAAGAATGCTGGTTGTAGACCCCAAAAGTAAGGAAGAGG
ATAACACCTTGATTTTCTATTTN

>Sequence 191

TGGGAAGTGATCTAATCCCTCTACCGGGAGGCAGACGCCCGGGCAGGTAC

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Table 2

TCCCTGGAAAGTCCAGCTGAGAAAGCGATCCTGCCCTCTGCTCCCAG GGTTACCCTCCTGTAAGTCTTCTGCTTAGTGTTCAGAATTGGGGGATGCT GGGACTGGGCAAGGACTTGTAGGCAACACCCCATAGCCTGCTCATGCCTG TAAGGTCCTTTTTGAGGTTTATTATTTCCTTGTCCATATACTTGATGCTC TTCATTGGCTTGTCTGGGACCTGCCTTAGGTTCTCCGAGGCATAAAAGGG CCGGACAGCCCCCGAGTTGGGGGAACTCTGAAGCTTCTTGGTGGCTGGAA CCTTGGTCATCTTAAAAATCCTTCAGGTTTTAGCCTGTGCCCCCAAGACA AGGATTTTTCCAGAATCTTCTACTTCAGTAGTTACTGGTATGAGAAGTTT CGGCAACTTCTCCCTGATCCCCAAGTCCCAATTACACGAACTCCAAGCGG TTTGCTTCTNCCGCGTACCT

>Sequence 192

GAATGATGAAGCCCTCTACCGGGTGGCGGCCGCCCGGGCAGGTACTTTTT TTTTTTTTTTTTTTTTTTTTCTGGCTTGAAATACAGCTGAAATAACTG AATTTTCTACTTGAAACGTGTGTGCCTCTCCACTGAGGGGCCAAGGCCCT GGAAATGTAAAGGGCCAATCTTTGTTACAGAGGGGTTCATTGCAGTGAAG GGCGGGTTCTGCAAAGACAACAGGTCTCACAGATAGTTGCCCCCGCGTA CCT

>Sequence 193

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>Sequence 194

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>Sequence 195

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>Sequence 196

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>Sequence 197

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>Sequence 198

CTTGCTCAGCCTTTCCAGGCCCCTCTGATGAGCTCTCTAATCAGCAGGAC GAAAGGTGGACAGCCTGTTCGTCTCTCATGTCAGCCTAGGGCTGGGAACA **GTTTGTGAGGACTTATCTGTTGTACCT**

> Page 77 (of 261 pages in Table 2)

quence 199

GTACTTGCTCAGCCTTTCCAGGCCCCTCTGATGAGCTCTCTAATCAGC GACCAAGGTGTGAAGTGGGAATGAACATGGATCCATCCCATTGGATGG AAGAAAGGTGGACAGCCTGTTCGTCTCTCATGTCAGCCTAGGGCTGGG CAGTTTGTGAGGACTTATCTGTTGTACCT

quence 200

AAAGATGGCCAGAGAAGAAGCTGGAAGAAATAGATTGGGTGACATTTGG TTATATTGAAGAAGGTTACGCCACAGAGTGTGAATAGTGGAAAAACCT AGCATATGGAAACTGAATGATCTTCGTGACCTGACACAATGTGTGTCC JTTCTTATTTGGAGAAGTTCACAAAGCGCTCTGGAAGACGGAGCAGGG

quence 201

quence 202

quence 203

quence 204

GATGTAGTTGATGCGCTCACCGCGGTGGCGGCCGAAAACTGATCAGAC
TCTCAGATCAAGGAAAAGATGGCCAGAGAGAAGCTGGAAGAAATAGAT
GGTGACATTTGGGGTTATATTGAAGAAGGTTACGCCACAGAGTGTGAA
GTGGAAAAACCTTCAGCATATGGAAACTGAATGATCTTCGTGACCTGA
CAATGTGTGTCCTTGTTCTTATTTGGAGAAGTTCACAAAGCGCTCTGG
GACGGAGCAGGGGACTGTCGTAGGGATCCTCAATGCCAACCCCATGAA
CCAAGGATGGTTCAGAGGAGGTGTTTTATCTATCGATCATCCTCAGA
GTCTTAATTATGGGTGAAGCTCTTGACCTGGGAACCTGTAAAGCCAAG
.GAAGAATGGAGAGCCGTGCACGCAGACTGTGAATTTGCGTGACTGTGA
ACCT

squence 205

ATGTGNTTTTGAAGCCTCTACCGGGTGGCGGCCGAAAACTGATCAGAC
TCTCAGATCAAGGAAAAGATGGCCAGAGAGAAGCTGGAAGAAATAGAT
GGTGACATTTGGGGTTATATTGAAGAAGGTTACGCCACAGAGTGTGAA
GTGGAAAAACCTTCAGCATATGGAAACTGAATGATCTTCGTGACCTGA
CAATGTGTGCCTTGTTCTTATTTGGAGAAGTTCACAAAGCGCTCTGG
.GACGGAGCAGGGGACTGTCGTAGGGATCCTCAATGCCAACCCCATGAA

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GCCCAAGGATGGTTCAGAGGAGGTGTGTTTATCTATCGATCATCCTCAGA AGGTCTTAATTATGGGTGAAGCTCTTGACCTGGGAACCTGTAAAGCCAAG AAGAAGAATGGAGAGCCGTGCACGCAGACTGTGAATTTGCGTGACTGTGA GTACCT

>Sequence 206

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ACGCTCCTCTGAACCATCCTTGGGCTTCATGGGGTTGGCATTGAGGATCC
CTACGACAGTCCCCTGCTCCGTCTTCCAGAGCGCTTTGTGAACTTCTCCA
AATAAGAACAAGGACACACATTGTGTCAGGTCACGAAGATCATTCAGTTT
CCATATGCTGAAGGTTTTTCCACTATTCACACTCTGTGGCGTAACCTTCT
TCAATATAACCCCAAATGTCACCCAATCTATTTCTTCCAGCTTCTCTG
GCCATCTTTTCCTTGATCTGAGACAGTCTGATCAGTTTT

>Sequence 207

>Sequence 208

>Sequence 209

CATACTATATAATATTACGATATAATGATTATATCGATCTTCTAAACTTA
ACTATGTATATAATTATAAAAAATAATTAATACTACGATGAGTATATCTTA
TGATCAACTACCAAATTCTGTATGATACGTATCTCCACCGCGGCGCGCGA
CGAGGTACACGACATAGGCACATGTGCAAACACAAAGAAGGTGGGCTGCT
GCTTCTTTCTATCTGCCCCTAGACCAGGCTCCTTTGCTTCACGTAAGATG
GAGACTGTCCCATTCCTCTGAAGTTGCTGGAAGGACATTTCCCAGGAAGA
AACAATTCCTCACTGCCTATAAACTGTAGTCACATGTGGGATAGTCAATA
GAACATGAGAATCAGAACAATCTGGGCAAATGGGTATGGCAAGAATGGGA
ACACCACAACAGGACAGATGCCAACTCTCATTCATGCCAGGCCTTTTGGC
ATATGGGTGCCTTCTGTGTCTTCTTTCCACCTATTCCTTCAGTCTCAACA
ATCTCTTTGACCCTGACCGGCG

>Sequence 210

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> Page 79 (of 261 pages in Table 2)

TATGCTGAAGGTTTTTCCACTATTCACACTCTGTGGCGTAACCTTCTTCA ATATAACCCCAAATGTCACCCAATCTATTTCTTCCAGCTTCTCTCTGGCC ATCTTTTTCTTGATCTGAGACAGTCTGATCAGTTTT

>Sequence 211

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GCTCCTCTGAACCATCCTTGGGCTTCATGGGGTTGGCATTGAGGATCCCT
ACGACAGTCCCCTGCTCCGTCTTCCAGAGCGCGGTGTGAACTTCTCCAAA
TAAGAACAAGGACACACATTGTGTCAGGTCACGAAGATCATTCAGTTTCC
ATATGCTGAAGGTTTTTCCACTATTCACACTCTGTGGCGTAACCTTCTTC
AATATAACCCCAAATG

>Sequence 212

CAGTCTACATCTAGTNTCTCTTTTCATNATCTTGTTATAGATGTATAACT ATCATCCTTCTGTTCACATATACCTTATTGCTGTATTATGGATATACATA TATCAATTTACATTAGTTAGAATTTTATGTCTATAAACAACCAAGACGAT GATTTCGAGCCCTTCACCGCGGNGGCGGCCGCCCGGGCAGGTACTTTTTA AATTTTTTTTTTCTGTAGAGACGAGGTCTTTCTATGCTGTTCAGGCTGA ACTTCATGGGTTTATTGGGGATGGCTAATGGATGACATTGGCGGTGGTCC TTGATACCAGATAAGCCCTCAGTGTGAAGCAGCTCTTATTTTTCCTTGTC TTGAGATTGCTCTGGAATGGAAATTAGGCTTTTTTGAAGGTGTGACCCTT TITGTTGATTTGTTGAGGAGTTAGTTTTAAATTTTTAAATGTTTGAGAGA CAGTCTCTGATAAATGATCATTCACCAATCACCGATTACTCTCCTTGCTC TGTTAAGTGTGACACTGTCCCTTTGAGAATCTGGCGACAGCTATGTATCC CATAACCACACACCCCAAAAAAAAAAAATTTATGTCTGGTTCCAGGAGTT ACCTTTTATGAGAAGTCCATTTGTGAAGAACCTGGATGTTCAGAGAACTT CCTGGGAAACACTGGAAGAAATAAAGAGGCCGGGCCCGGGGGCTCATGC TTGGAATCCCCACACTTTGGGAGGCTTAGGTGGGCAAATAAACTGGGGTC AGGAGT

>Sequence 213

>Sequence 215

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CCTGGTTTCTAAGAATTGCCGTTGACTCTTTCTTTGGCTTCTGCTGGCAC
GGTAACCAGACTCCCTACAACTGCACTCTTTGTCTTTGTCATGGAAGCCG
CGAGCGTAGAGGTTCCGCGTGCTCTGCCGGACTTGAGCAGGTCACTGGGT
CCTTTACACTTGTGAATTCGAAGCTTGCCAGATGTATCCTCAATGCATTG
CCACTTCTGCCCCGGTTGTTCACAGGCTGTCTGGTACGAGATCTCCGACC
AGTCTGGGGGGCCTGGCGGCCTGCGCAGCCACCTCAAGATCACAGATTCT
GCTGGCCATATTCTCTACTCCAAAGAGGATGCAACCAAGGGGAAATTTGC
CTTTACCACTGAAGATTATGACATGTTTGAAGTGTTTTTGAGAGCAAGG

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GAACAGGGCGGATACCTGACCAACTCGTGATCCTAGACATGAAGCATGGA GTGGAGGCGAAAAATTACGAAGAGATTGCAAAAGTTGAGAAGCTCAAACC ATTAGAGGTAGAGCTGCGACGCCTAGAAGACCTTTCAGAATCTATTGTTA ATGATCTTGCCTACATGAAGAAGAGAGAGAGAGAGATG

>Sequence 216

GGGTGTTGATAGATCGAGCTCCACCGGGTGGCGGCCGAGGTACTTTGGAG
TCCCCTGGTTTCTAAGAATTGCCGTTGACTCTTTCTTTGGCTTCTGCTGG
CACGGTAACCAGACTCCCTACAACTGCACTCTTTGTCTTTGTCATGGAAG
CCGCGAGCGTAGAGGTTCCGCGTGCTCTGCCGGACTGTGAGCAGGTCACT
GGGTCCTTTACACTTGTGAATTCGAAGCTTGCCAGATGTATCCTCAATGC
ATTGCCACTTCTGCCCCGGTTGTTCACAGGCTGTCTGGTACGAGATCTCC
GACCAGTCTGGGGGCGCTGCGGGCCTGCGCAGCCACCTCAAGATCACAGA
TTCTGCTGGCCATATTCTCTACTCCAAAGAGGATGCAACCAAGGGGAAAT
TTGCCTTTACCACTGAAGATTATGACATGTTTGAAGTGTTTTTGAGAGC
AAGGGAACAGGGCGGATACCTGACCACTCGTGATCCTAGACATGAACATG
GAGTGGAGGCGAAAAATTACGAA

>Sequence 217

>Sequence 218

>Sequence 219

CACTACTCATCTCATATAACTCGATTTGATCATTTATACTAAATACTTCT
CATTTTTTTTATTATTTTACTACCAAATCTTTATTTCTTATATAAAATAT
TTAAAAATACNCANAGGGGGCGTTGGCTTGAGGCCCCCTCCGCGGNGGCG
GCCGNTATTGGTGGTGAAGACCCGTAGCAACAGTGGGCATCTCTTCTCGC
GGTCGATCGGTTTCTCTGGCTCCTTTTTAA

>Sequence 220

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ATGATATCATGTATCCTGCTTGGACATTTTGGGAAGGGGACCTGCTGTT
TGGCCAATTTATCCTACAGGTCTTGGACGTGGGACCTCTTCAGAGAAGA
TCTGGTAAGGTCAGCAGCACAGTGGCCATGGAAAAAGAAAAACTCTACAG
CATATTTCCGAGGATCAAGGACAAGTCCAGAACGAGATCCTCTCATTCTT
CTGTCTCGGAAAAACCCAAAACTTGTTGATGCAGAATACACCAAAAACCA
GGCCTGGAAATCTATGAAAGATACCTTAGGAAAGCCAGCTGCTAAGGATG
TCCATCTTGTGGATCACTGCAAATACAAGTATCTGTTTAATTTTCGAGGC
GTAGCTGCAAGTTTCCGGTTTAAACACCTCTTCCTGTGTGGCTCACTTGT
TTTCCATGTTGGTGATGAGTGGCTAGAATTCTTCTATCCACAGCTGAAGC
CATGGGTTCACTATATCCCAATCAAAACAGATCTCTCCCAATGTCCAAGAG

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CTGTTACAATTTGTAAAAGCAAATGATGTAGCTCAAGAGATTGCTGA AAGGTGAAGCCAGTTTATTATGT

>Sequence 221

>Sequence 222

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CTAATATCACACTCGTATTTCATAATATGTTATAACATGTTGACTTATGT
TCTAGGAGATATCACATTATATAATGCACTTAGTGGGGTTGATTCGAGTC
ACACTCCGCGGAGGCGGCCGAGGTACGCGGGGAGTGTAACTATGGCCGGC
CTGCGGAACGAAAGTGAACAGGAGCCGCTCTTAGGCGACACACCTGGAAG
CAGAGAATGGGACATTTTAGAGACTGAAGAGCATTATAAGAGCCGATGGA
GATCTATTAGGATTTTATATCTTACTATGTTTCTCAGCAGTGTAGGGTTT
TCTGTAGTGATGATGTCCATATGGCCATATCTCCAAAAGATTGATCCGAC
AGCTGATACAAGTTTTTTTGGGCTGGGTTATTGCTTCATATAGTCTTGGCC
AAATGGTAGCTTCACCTATATTTGGTTTATGGTCTAATTATAGACCAAGA
AAAGAGCCTCTTATTGTCTCCATCTTGATTTCCGTGGCAGCCAACTGCCT
CTATGCATATCTTCACATCCCAGCTTCTCATAATAAAATACTACATGCTGG
TTGCTCGTGGATTGTTGGGAATTGGAGCAGTTTTTCAGAACTTGTTTACA
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>Sequence 223

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TTGTGATCTGCAATGATTCTTCCCTTCGAGGTCAGCCCATTATCTTAAT
CCTGACTTTTTTGTGGAGAAACTCCGACATGAGAAACCTGAGATTTTCAC
TGAGTTGGTGGTCAGCAATATCACAAGGCTCATCGATTTACCTGGAACTG
AGTTGGCTCAGCTGATGGGGGAAGTGGACCTTAAGTTGCCTGGCGGGGCT
GGCCCAGCATCAGGATTCTTCCGGTCTCTCATGTCTCTCAAGCGAAAGGA
AAAAGGAGTGATATTTGGGTCCCCACTGACGGAGGAAGGCATTGCCCAGA
TATACCAACTGATTGAGTATCTACACAAAAACTTGCGAGTAGAGGGTTTG
TTTAGAGTACCT

>Sequence 224

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>Sequence 225

GGGCGATGATTGGTGCGCTCCCCGCGGTGGCGGCCGAGGTACTCACAGTC
ACGCAAATTCACAGTCTGCGTGCACGGCTCTCCATTCTTCTTCTTGGCTT
TACAGGTTCCCAGGTCAAGAGCTTCACCCATAATTAAGACCTTCTGAGGA
TGATCGATAGATAAACACACCTCCTCTGAACCATCCTTGGGCTTCATGGG
GTTGGCATTGAGGATCCCTACGACAGTCCCCTGCTCCGTCTTCCAGAGCG
CTTTGTGAACTTCTCCAAATAAGAACAAGGACACACATTGTGTCAGGTCA
CGAAGATCATTCAGTTTCCATATGCTGAAGGTTTTTCCACTATTCACACT
CTGTGGCGTAACCTTCTTCAATATAACCCCAAA

>Sequence 226

>Sequence 227

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>Sequence 228

>Sequence 229

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Table 2

>Sequence 230

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>Sequence 231

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ANNNTTTATGCTTTTATCAACTCCCGCGGTGGCGGCCGAGGTACGACGT
TTCCATCAGCTTGTCTGTTTCATTCCCTGATGTTACGAGCAATATGACCA
TCTTCTGTATTCTGGAAACTGACAAGACGCGGCTTTTATCTTCACCT
>Sequence 232

>Sequence 233

TGTCCCCTCCGCTCCACACTTACAACTTCTACATTTCCGTCTCTCGTTC
TCTTGTTGTTTTCGTCGTTGTATTTTCTTGGTTGCTCATTGTTGTTCCCA
TNAAATNANNNCANTAGCGTTTTCGGCTCCCCGNGGNGGCGGCCGCCCGG
GCAGGACGCGGGGGCCAGTTCTCTTCGGGGACTAACTGCAACGGAGAGAC
TCAAGATGATTCCCTTTTTACCCATGTTTTCTCTACTATTGCTGCTTATT
GTTAACCCTATAAACGCCAACAATCATTATGACAAGATCTTGGCTCATAG
TCGTATCAGGGGTCGGGACCAAGGCCCAAATGTCTGTGCCCTTCAACAGA
TTTTGGGCACCAAAAAGAAATACTTCAGCACTTGTAAGAACTGGTATAAA
AAGTCCATCTGTGGACAGAAAACGACTGTGTTATATGAATGTTGCCCTGG
TTATATGAGAATGGAAGGAATGAAAGGCTGCCCAGCAGTTTTGCCCATTG
ACCATGTTTATGGCACTCTGGGCATCGGGGGAGCCACCACAACGCAACGC
TATTCTGACGCCTCAAAACTGAGGGAGGAGATCGAGGGAAAGGGAATCCT
TACTTACTTTGGACCGAGTATGAGGCTTTGGG

>Sequence 234

>Sequence 235

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Table 2

>Sequence 237

GCAGTFFTGTGATCTGCAATGATTCTTCCCTTCGAGGTCAGCCCATTATC
TTTAATCCTGACTTTTTTGTGGAGAAACTCCGACATGAGAAACCTGAGAT
TTTCACTGAGTTGGTGGTCAGCAATATCACAAGGCTCATCGATTTACCTG
GAACTGAGTTGGCTCAGCTGATGGGGGAAGTGGACCTTAAGTTGCCTGGC
GGGGCTGGCCCAGCATCAGGATTCTTCCGGTCTCTCATGTCTCTCAAGCG
AAAGGAAAAAGGAGTGATATTTGGGTCCCCACTGACGGAGGAAGGCATTG
CCCAGATATACCAACTGATTGAGTATCTACACAAAAACTTGCGAGTAGAG
GGTTTGTTTAGAGTACCT

>Sequence 238

GGCTATGATCAGCTCACCGCGGTGGCGGCCGAGGTACGCGGGGATTGTGT
GCAAAATCAGAGAGGGGTGCAAGATCCTGATTTTTCAGGAGTTCAAGCGA
CAATGGCAGCCCAATACGGGAGTATGAGCTTCAACCCCAGCACACCAGGG
GCCAGTTATGGGCCTGGAAGGCAAGAGCCCAGAAATTCCCAATTGAGAAT
TGTGTTAGTGGGTAAAACCGGAGCAGGAAAAAGTGCAACAGGAAACAGCA
TCCTTGGCCGGAAAGTGTTTCATTCTGGCACTGCAGCAAAATCCATTACC
AAGAAGTGTGAGAAACGCAGCAGCTCATGGAAGGAAACAGAACTTGTCGT
AGTTGACACACCAGGCATTTTCGACACAGAGGTGCCCAATGCTGAAACGT
CCAAGGAGATTATTCGCTGCATTCTTCTGACCTCCCCAGGGCCTTATGCT
CTGGCTTTGGTGGTTCCACTGGGCCGGTTCACTGAGGAAGAACTTCTCT
>Sequence 239

>Sequence 240

TCATTTCATGAAATTTTATTCATATTATTTTTCATAAACTCCATAGTTCT TTCTATGTCTACTAGTTTTTATATTATCTATTTCAACTTCTTATTTTCTT

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>Sequence 241

>Sequence 242

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>Sequence 243

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GTTCTGGACTGTGGGGCTCCTTGGGCAGATGCTGTATTATGGGGATAAGC
CACACACTTTTTGAACTGGCCCGGTCAGGGGGGACATAACCATTTCCTGT
GCCACCCCATCAATCCCCACCTATTCTGAGTGTAGGCTCCTCCCCTGCTT
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TCCTGGGACAACAAGACTGGCTTGTGGTTCCATTCTCCAGATCCTTGGGT
TGGCTTCTGGGTGCACTAGGAGATCTGAAATGCTCTCAGGCCACCAGGAA
AGTACTGGAAGTAAAGTCTGACTCTAAAGAAGATGAAAATCTAGTAATTA
ATGAAGTAATAAATTCTCCCAAAGGGAAAAAAACGCAAGGTAGAACATCAG
ACAGCTTGTGCTTGTAGTTCTCAATGCACGCAAGGATCTGAANAGTGTTC
TCAGAAGACTACTAGAAGAGACGAAACCAACCTTTTGG

>Sequence 244
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CTCCTGACCTCGAGGGATCCACCCACCTCGGCCCTCCAGTGTGCTGGGAT
TACAGGCATGAGCCACGGCACCCGGCCCTGGTTTGCTTTCTGAACCATGT
CAATACAGTACCACCACAGTTGCTATCTCTTGAACATCTTTCATTAAAAC
ATCACCGTCTAGTTTGAGAATACTTTTAAGCCTGCTGGCCTCCTTTGGGG
CATTCTTTTTTCTCTTTTCAGCACGCATCTTTCTTTTCACTTCAGT
AAGCTTTTAGCCATGTTTTACCTTGAGGGCCGAAGTTAACTTCAGCGGGA
GTGAACGACAGGGTGGGCTCCACTTTATCCAGTGCACTCGGAAGCCGGA
GGGCCCCCACCAAAAAGAGCAAGGGGAACCCTCGCCCTCAACAAGGCCTG
CATCTCCGGACTGGAGCTCAAGTATAGCCCAGCGAGTGTCAAGAAACGAA
ATTCTTCAGGGTGGCGGAATCAAGCCCAAGTCCCATGTTTACTGACCGGG
>Sequence 245

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i abie 2

GAACCCCCAATTTCCCACAAAAGAGGGAGATTTTTTGCCGGTAAACTTA
CTCCATTTTTTAATGGGAAAATCCGGTTTTGGTTTTTCCCCTTTTTTCCG
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>Sequence 246

>Sequence 248

>Sequence 249

>Sequence 250

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GGACTTTTTTGTGGAGAAACTCCGACATGAGAAACCTGAGATTTTCACTG
AGTTGGTGGTCAGCAATATCACAAGGCTCATCGATTTACCTGGAACTGAG
TTGGCTCAGCTGATGGGGGAAGTGGACCTTAAGTTGCCTGGCGGGGCTGG
CCCAGCATCAGGATTCTTCCGGTCTCTCATGTCTCTCAAGCGAAAGGAAA
AAGGAGTGATATTTTGGGTCCCCACTGACGGAGGAAGGCATTGCCCAGATA
TACCAACTGATTGAGTATCTACACAAAAACTTGCGAGTAGAGGGTTTGTT

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TAGAGTACCT

>Sequence 251

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ATTCTAGTATAATATATTTTTTTGCTTCCGTTGTTATATTTATCACACA
CAAAAAAATAAATGGGTGTTGTCTCGATAACCTNTCCGCGGNGGCGGCCG
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GTCTACCCGGGAATCCGGGGTCCCTGACCGA

>Sequence 252

>Sequence 253

>Sequence 254

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GG

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GGGCCAGTTATGGGCCTGGAAGGCAAGAGCCCAGAAATTCCCAATTGAGA
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CATCCTTGGCCGGAAAGTGTTTCATTCTGGCACTGCAGCAAAATCCATTA
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GTAGTTGACACACCAGGCATTTTCGACACAAGAGGTGCCCAATGCTGAAA
CGTCCAAGGAGATTATTCGCTGCATTCTTCTGACCTCCCAGGGCCTCATG
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>Sequence 256

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>Sequence 258

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ACGCCAACATTGCGGCGCCCAGTTGCGTCCACCTGCTTGTCCGCAGAGGT
TCTCATAGAATTTTCTCTTCACCACTCAATCATATCTACTTACACAAGCA
GTCAAGCAGTCAACAAAGAAGAAATTTCTTTTTTTCGGAGACAAAGAGATA
TTTCACACAGTATAGTTTTGCCGGCTGCAGTTTCTTCAGCTCATCCGGTT
CCTAAGCACATAAAGAAGCCAGACTATGTGACGACAGGCATTGTACCTGC
CCG

>Sequence 259

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>Sequence 260

>Sequence 261

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CTTTATATATAGGTAGCGCGTG

>Sequence 262

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Table 2

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>Sequence 263

>Sequence 264

NGCGTTCGGAGCACTACGCGGNGGCGCTGCGGGGAAGACGGGNGACGNGC GGATCTTCTTTTTTGGGGCAATGNCACGTTTAATAATGCGTNCCCGGC CTNNAAAGCCTTCGC

>Sequence 265

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>Sequence 266

>Sequence 268

>Sequence 269

AGGTACGCGGGATAGTGGAGGCACTGAAAGACCAGCAGAGGCATAAGGTT CGGGAAGAGGTTGTTACCGTGGGCAACTCTGTCAACGAAGGCTTGAACCA

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Table 2

ACCTCGAGCGCCCCCGGGCAGGTACAGATGCACAGGAGGCCATAGGGT
TTAGGCAAAGGGGAGCACAAAAGTTGAAGATGAGGCGCTGCCACCAATGC
TGGGACTTCAGGCCAGGGGCAGGAGCTGAGGAAGCCACAAGGGAGGACAT
TTTCTGCAGTTGCTGAACCAGTAGCAACCAGGTCCTGAGAAAGCCCTCTC
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>Sequence 270

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>Sequence 271

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>Sequence 272

>Sequence 273
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>Sequence 274

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TTACAAACGGGAGCTTTCGCACCCCCCATTGTACGCGGGGGAGGAGCCTG
AGGAAGAGGGCGGCGACGGTGGTGGTGACTGACCGGAGCCCGGTGACAGG
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TTTGCCAGCTAAATTCANAAAACTCCTGGTGCCAGGAAAAATTCAGCACA
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>Sequence 275

>Sequence 276

>Sequence 277

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>Sequence 278

>Sequence 279

>Sequence 280

>Sequence 281

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ACTATTGATGCCCCCTACTGCACAGCAGAAGCTCTGAATCGTGTTCCTGA
ATGAAAGAAGTCAGAGATGAAAAGATGGGCCAGGAGTCCAGTTTCTGGAA
GGCCAAGAATCGAAGTAGCAAGCTGCAGCCGTTTTCCAGACAAGCATGAT
GTGGGGATGCAGAAGAATTCAGGACTGGAGGGGCAAACTCCGATGTGACT
GAGGCCCCACTGCCAAATGGCGGCATGCTCAGATAGCACCCAAGAATTTG
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ATTATATTTCTACTGCTCAGTATAACGTACTGAACGACAGGTGTACCACG TCTGCATCTCTTTTCGTGCGCTAATCGTCTCGACGCGTAGGCAACGTATA TTTATCCNTTCTTGCGGATCGACTCACCGCGGCTGGCTGGCCCGCAGGAT AGGCACGAGACAGACCCTCTTCCACTTGTCATGTTGTATTGCCACTTCCG CGCGAGGATATTCTGATAGGATGCGTCTCTCTCTCAGATCAACACGGTAG GCAACGTTCCTTGCGCTGGTACCTTTTCCACCTTTCCCTTTTCCCATTCT GGCATTAACACCGGTTCCACCCAACCCTGGCACTTAAGGGCTTGTGAGAC TTCAACCCCAACCTTCCAGGCCTCCCCATTGGGGTCCTCCTTGCCACCTT CATTTGGGTTCGTGGGATACCAGAGTTGGAACAAGGGGGCCCAGGAATCA AAGCCTGTTCCTTTTCAACCCCCACTCAATTGGGCTCAAGGGGAATGTGT GTCCCTCCAGTAAGGGGGTTCCCCAAAGGCCAACAAGGAAAAAAATCTTG CAAGCCTTTGAAGCTGGAAGTGGCCACTTGTATGCCTAAGGCTTGGAAAA AGCCACATAAAAGGGGAGGGGCCTAGGAACCACCGCAAAAAAGGTTTTG GATGGCCAAGAAAAAGAGGGAAAGGGGGCTCCAGTGGAATATAACCCTCT GGGCGCAATTCTNTTTTCCAATTTTTCCCATTTGGCCTTGGCCCATTAAA TTTCCAGGGGCGAAGGATTTAACCTCTGGGTAAAAGGGTGTGGNGNNNGG GGGCCAAGNAACCAACCTTTATTGGACACCCTGGTGGAAAAGAGAAGCCC TCTATTAAGAAAATTTCCCCAAAAATTGGGGAAN >Sequence 283

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Table 2

CGTGTTCCGGGTGGCGGCCGAGGTACTAGGTCCCAAATGTTTCAACCGAT TTTACCCTATGTTTTCAAGGGTATTATAGAAGGGGAGAGGTATCCTGTAG TGATGTCCACGTATCTTGGAGTTATGGGTCGAGTTCTACTACAAAACACT **AGTTTTTTTCTTCACTTACTAAATGAGATGGCCCATAAATTTAATCAGGA** GATGGACCAGCTTTTGGGAAATATGATTGAAATGTGGGTTGATCGAATGG ACAACATTACCCAGCCTGAAAGAAGAAAACTTTCAGCTTTGGCTTTGCTC TCTCTTCTGCCATCTGATAATAGTGTTATCCAAGATAAATTCTGTGGGAT TATAAACATTTTAAGTAGAAGGCCTGCATGATGTCATGACGGAAAGATCC TGAAACAGGAACTTATAAAGACTGTATGTTGATGGCTCATCTTGAGGAAC CAAAAGTAACAGAAGATGAAGAACCACCCACAGAACAAGATAAGAGG

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GTGATGACCCGCGCGCGCGCGAGGTCCCTGTACTCCAGGGCACTGGCGG >Sequence 289

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>Sequence 291

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TCCCCGAGGTTCAGAGGACGGAT

>Sequence 294

>Sequence 293

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CTGACTTACTTGTG

>Sequence 295

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TGAGATGACTACCGGGTGGCGGCCGGAAGAGCAACCGAGATGAAGGTGAA GATGCTGAGCCGGAATCCGGACAATTATGTCCGCGAAACCAAGTTGGACT TACAGAGAGTTCCAAGAAACTATGATCCTGCTTTACATCCTTTTGAGGTC CCACGAGAATATATAAGAGCTTTAAATGCTACCAAACTGGAACGAGTATT TGCAAAACCATTCCTTGCTTCGCTGGATGGTCACCGTGATGGAGTCAATT GCTTGGCAAAGCATCCAGAGAAGCTGGCTACTGTCCTTTCTGGGGCGTGT GATGGTAGAGGTTAGAATTTGGAATCTAACTCAGCGGAATTGTATCCGAC TCT

>Sequence 296

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CAGTCTATGCTTTGAAGCGCAAAAGGGAATAAACATTTAAAGACTCCCCC
GGGGACCTGGAGGATGGACTTTTCCATGGTGGCCGGAGCAGCAGCTTACA
ATGAATAATCAGAGACTGGTGCTCTTGGAGAAAACTATAGTTGGCAAATT
CCCATTAACCACAATGACTTCAAAATTTTAAAAAATAATGAGCGTCAGCT
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CAGTTCAGGAAGGCAACAGCAAATCTCTGCCAGTGTTAACAAAAATGCTG
ACTCCTATGAAAGAATTATGAGTGTGGAAAGATGAACTCACCACACACGC
TGATGAGGCTGTGGAGAATCCGTCCATGAAAGAATTTCTCCTGGGGGAAG
GGCTTACCTTGGCACTGCTAGAAT

>Sequence 297

>Sequence 298

>Sequence 299

>Sequence 300

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GGTAGGGGAGGCGTGGTGGTAACATACTTTTAAACCAGCGATTGCACAG CAAACCACAATGCAAGTATTTCTGACTCCCAAGATTGCCGTTTCCTAAAG AGCAATTCTTCTGCAGGCAACAGCAAACCTACCTTTCCTTGCTAACTGCT TTCAGTAAATTCTTGATGGCCTTCGATTCTGGATTCAGACATCTCTTCTC ACCCTTCTTTTTCATTGTAGCAATGATCTCAACACGTGGACAAAATTGGC TTGCAGGAATAATTTCAAGTTTTTCTAAAAACCTTGGATTAACAGGTGGA TTACTTATTGCTATGCAGGGTACCTGGCCGGGGGGGCTGTTCGACACCTG GCTAATGGTCTTGACATGGAACCGGGCCTTAAATTTGGCATTTT

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TGACTTTTTTGTGGAGAAACTCCGACATGAGAAACCTGAGATTTTCACTG
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TTGGCTCAGCTGATGGGGGAAGTGGACCTTAAGTTGCCTGGCGGGGCTGG
CCCAGCATCAGGATTCTTCCGGTCTCTCATGTCTCTCAAGCGAAAGGAAA
AAGGAGTGATATTTGGGTCCCCACTGACGGAGGAAGGCATTGCCCAGATA
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TAGAGTACCT

>Sequence 302

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>Sequence 303

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>Sequence 304

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>Sequence 305

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>Sequence 306

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CTGTTCGTTGCTTCCAGGGCCTGCTGATTTTTTGGAAATGTGATTATTGGT
TGTTGCGGCATTGCCCTGACTGCGGAGTGCATCTTCTTTGTATCTGACCA
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CAGGCGGCTCCGGCAGCGCTGGACACAGGAAACTCCTGGGTCCCCGACTC CGGCTCTCCTCTACCCCCTCTTCGGTTAACTCCGCTTGTTTCTCTACAAA ATGGCGCCGGAGGTCCCCCGCGTACCT

>Sequence 308

>Sequence 309

>Sequence 310

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>Sequence 312

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AGAAAAATGCCCTGGCAATCATCAAATCACAGTTTTCCAACATCAATAAA
GTGTTTAACTCCTCATTTGAAAGATGGTGTTCCTGGATTGAATATTGAAG
AATTAATAGAGAAACTTCAGTCTGGAATGGAGGTTATGGATCAGATTTGT
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ACTCAAGC

>Sequence 313

>Sequence 314

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>Sequence 315

>Sequence 316

>Sequence 317

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GTGATGTGAGAATATCTGACATAATGGATGTATATGAAATGAAACTATCC
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>Sequence 318

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ATCTTCACTGTTATATA

>Sequence 319

>Sequence 320

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Tabl 2

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>Sequence 321

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>Sequence 326

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>Sequence 327

>Sequence 328

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AAAATAGAACAAAATGAAGGAAAAAGAGGCTCTGTCTTAGCACATTCCTG
TGACCAGCCTGCTGTCTGTGGCGTGCCCTCCTGGCCCGGCCTTGGCACAT
GTTCGTTTTTGTGGTTGTTGCCTGGACAGGCAACTCTGCAGGGCTGCTTC
TCTACGCATCCCTTTGCCTGCCTGCCTGCCAGGGGTTGTCAAGGGCTT
TTGGGTCAGAGTGGGCACCCCTTTCTCCAAGGCTCCCTGCAACAGCTGGC
CTGTCCCTGGTGGGGCTGACAGCTTTCTTCTTACCCTGCCAGGCTGGCCA
AGCCCCAGAGGTGACCTATGAGGCAGAAGAGGGCTTCTTGGGGCCGTGGC
TACTCACTAGCTTGGATGGGCCCCTGTTGGAGCCCAGATCCTTGGTACCT
TCACTGGGTG

>Sequence 329

>Sequence 330

>Sequence 331

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GGGTTCCTGGTGAACTTAAACTTGTTACAGCAGCAGGTGATCAAACAGCC AAATTTTGGGACGTAAAAGCTGGTGAGCTGATTGGAACATGCAAAGGTCA TCAATGCAGCCTCAAGTCAGTTGCCTTTTCTAAGTTTGAGAAAGCTGTAT TCTGTACCTGCCCG

>Sequence 332

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>Sequence 333

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AACGTGCTAAAATGGGAAGGAGGCGGTGTTTTGCTGATCTGTTAAATTCT
TAGTGAAGTTTCCTTGATTTCCAGTGGCTGCTGTTGTTTGAGTTTTGGTTT
GGAGCAAAACTGAGGTAGTCCTAACATTTCTGGGACTGAATCCAGGCNNG
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAGGTACCT

>Sequence 334

GATGTGATCTCCCCGCGGTGGCGGCCGAGTTTGATTTCTTGCAGTCCTGA GCGATGGAGCCCGGGGGTGCCTGGTTATTGTCCGCTTTCTCTCAGATG CTTGGCTTGTTTTTCAAGAGAACCTTTTCGATATTCATTGCTCCATCGA TTGGATCCAGTCCTTGTTCAGAAAATTGTTTCAAGGCACTTAAGGCTGCC TGAAAGCCTTGAATCCTTGCTAAATATTCCAGTTGTTTTGAAGGTTGTAC

>Sequence 335

>Sequence 336

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CAGGAGGTTCAGCCAGAGGAACCGACTTTTAAGGGATCACAGAGCTCACA
CCAAAGACCAGGGGAACAGTCAGAAGCCTGGCTTGCTCCTCAGGCTCCCA
GGAACCTGCCTCAAAACACAGGTCTCCACGACCAGGAGACAGGTGCTGTG
GTCTGGACAGCTGGGCCCCAGGGACCAGCCATGCGTGACAACAGAGCTGT
ATCCCTCTGTCAGCAAGAATGGATGTGCCCAGGCCCTGCACAAAGGGCCC
TCTACAGGGGTGCCACCCAGAGGAAGGACAGTCACGTCTCGCTGGCAACA
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GTAGTTCTCAATTTTATGGGAAACTCCAGACCTGTCAGCAGAACAGCCAG
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>Sequence 338

Page 102 (of 261 pages in Table 2)

>Sequence 339

>Sequence 340

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Page 103 (of 261 pages in Table 2)

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>Sequence 344

>Sequence 345

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CAGTCTCTTATGCTGTGGCTCTTCTCAAGGATGTCTCAAGGGCTCCGGTG
GTGCTCTCCTGCTCTATCCGCTGCTGTGGCAAATCCTCTAAAAACAGCGT
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CTCAGTTTGCCAGCTAGTGATCAAGTCCAGCTGTTGGCAAGTTGGTCCCT
GAGGCCTTGTAGACTGACCTGTGGCAGAGAGCTCCCTGGGTCCAGCATCT
GTTGCCCTCACCCTTGACACATGCGGACCCTCCCCAGGCT

>Sequence 346 _____

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G

>Sequence 347

>Sequence 348

>Sequence 349

>Sequence 350

>Sequence 351

>Sequence 352

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Page 105 (of 261 pages in Table 2)

GGAAGCAGTGGTAACAACGCAGAGTACCCGGGGAAAAAAGGCAAATAGAA TGAGAACCATATTATGTACCT

>Sequence 353

>Sequence 355

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>Sequence 356

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TCTGCGTCGCAGCAGCGAGAGAAAATCACTCCATATCCGATGAGAGA
AGGGTGGCACAGAGATGGTGTCTACAATTAGAGACATTTCTGACTCCACC
TTAGCCTAAGCAAACTTTATGTACTGAGTAACATTTGAAGGTTGTCTTTT
AATGGTGGGGGGTGTTTTTTCCTTTTTAAACTACAGTGCTTGCACAAGAG
AGGGAGGACTCAGAAAAGGTTAGGGCAGGTGAGGGAGACAGTAGATGGC
CTGGGATGACTTGAGTCCATCATACTATTGCTTGGCAGGTGTCCTCCCCC
ATGTTTGATTCAAATTCCATGAGTGACCTACCTTTCCCCAGGAATGGGAC
TGAGAGGGTAGTCTTCCAGCAACTTAGTCTGCACAGGGCTCCCCGTTCAG
GCTGCCTTTGGTGGTTGTGCTTTTTGTAAGTTTCTTTCTCTGCACTTCGAC
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>Sequence.357

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TTAGGAGAGAGCTGGTTCCAGCACCAAATCCAGAGTCACTCGGGGAAGGA
GGTATGGTGGCAACACTTTATGCTTAATATTCAATTCTGCTCCAGTAGAA
CATGGTACCACCATTCTTCCAAGTTCAAAAATTATCTTTGATTCATTTTG
TTCCCCATTCCTCTAATATGTCACCAATTCTGCTGATACATTCTTTGTAA
TCTCTCCATCTATTTTAATCTGTTATTCACCTGAGCTACACAAACATTCA

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TCTGCACAAGGAGTATTCCACGTGCTGAAAAGACAGAGGATTAAGCCCTC CTTGTGGAGGCATTCACAGTCTGGTTTTAATACACAAACCAACAATTATA ATACACAGGGATAAAAAAAGTAGAGGCACTTATTGCATACCTGTACCT >Sequence 358

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>Sequence 360

>Sequence 361

GTCGACGTGCATTGAGCTCACCGCGGTGGCGGCCGAGGTACTTAAAACCA AATAAAAAGTGACATTTGAATTTCTTTTAAAAGGATTTCCGAGCTCACAG TCAGCTTGCGAGCCATTCTCCCGCGTACCAGCACAAACCGGGCCAGCCTC CTAAACTGCTCATTTACTGGGCGTCTACCCGGGAATCCGGGGTCCCTGAC

>Sequence 362

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>Sequence 363

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>Sequence 364

>Sequence 365

>Sequence 366

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TTCAACCCAATCAAGCTGACACTCAGTATTAACCATCACAAGGCGTGAGG
ACAGATAGCTGCATCCGCAAAATAGAGAACCAAGAAATAGTCCCACACCA
AAGTCAGGATCAAATGATTCCTGGACAAGCCACCAAGTCAATTCAACTGA
GAGAAAGAAGCCTTTGCACCAGTTGGTGCTGGAAGTTCTGGATATGCACC
TGGATAAGTGAACCCCCCTCCGTCACCACACACACACACTTAATTTGAGAT
GGATTGCAAACATAAAAGCTAAAACCATTAACACTTCTTGAAGGTAACAT
AGAATATTTTGTAATGTTATGATAGGCAAAAGTCTCTTAGGACACACAAA
AAAATTAACCATAAAAGAAGAAAATGGCTGGGTGCAGTGGCTCACACCTT
TAACACCAGCATGTTGGGAGGCTGATGCAGGAGCGTCCCTGAGCTCAAGA
GTTCAGCCCAGACTGGCAACATAT

>Sequence 367

>Sequence 368.

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. . . .

Table 2

>Sequence 369

TGTTGTGATCGATCGACTCACCGCGGTGGCGGCCGCCCGGGCTGGTACGC
GGGGGTTTCCGGTTTGGGTGTGGCCGCATGGCGTGCTGGGGTGCAGGTGG
CCGAAGGGGGCGTTACTGTTGCGACTGGCATCCGCATCCGCAGATGTAG
ATGGAACCAAAGCCAGAAGTTACGCGTCACCCTTGCTCTACAGCCAAACA
TGCAGGACTCTAGTAACCCGCGAAATGATGGGATAGCGTTGCAAATCCTT
AAAAGAGTCTTAACGGAGAAGGAAAAATGTTACATTGTCAAAGTCCCAAA
GCCTTTCAGCCTGAAGCCAGGAACAATTGTTCAAAGTTTCTTTGGAACAT
CAAGGAAGGAAATCCAGATTTTACTTTAAGTGCAATGGGGAGTCATTAAG
GATTTTGTGTAGATACAGCAAAAAGACAACAATCTTCAAGCCACAATGGC
CCTCACCAGAACCCAGCCATGTGGTCAGCCTGATCTCGGACTTCACAGCC
AGCAGAACTGTGAGAATTAAATCT

>Sequence 370

>Sequence 372

TGGACGATGATTGAGCTCACCGAGCGCGGTGGCGGCCGCCCGGGCAGGTA CGCGGGGATGTCTCTTGTCAGCTGTCTTTCAGAAGACCTGGTGGGGCAAG TCCGTGGGCATCATGTTGACCGAGCTGGAGAAAGCCTTGAACTCTATCAT CGACGTCTACCACAAGTACAAGAGATAGAAAGACCAGTCCTTGCTGAAAG ACAAGTCTGAATGCTCCACTTTTTCAATTCTCTCTCCATTCTTCAGTAAG TCAACTTCAATGTCGGATGGATGAAACCCAGACACATAGCAATTCAGGAA ATTTGACTTTCCATTCTCTGCTGGATGACGTGAGTAAACCTGAATCTTTG GAGTACCT

>Sequence 373

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CTGCTGAGAAGCCTCCTTCTACTTTTGCCTCACCTGAGACTGCTCCAGAA
GTGGAGACCAGCAGAACTCCACCAGCCTGTGAAACCACGAACCCTTCAAT
CAAGAAAAGACCTTTGATCAGGAGAAGACTTCTCGTCTCATTTCTGGGGA
CACATTCAGGATTTCTCCAAAGCAGGTGAAGGTACCTGCCCG

>Sequence 374

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>Sequence 375

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GTCAGATCTCAGGAATGGAAGGCAAACAGTTCTGCTATTATTGATCACAT
ATTTGCCAGTAAAGCAGTGGTGAATGCCGCAATTCCAGCCTATCACCTAA
GAGACCTTATCAAAAGCATGCTTCATGATGATCCAAGCAGAAGAATTCCT
GCTGAAATGGCATTGTGCAGCCCATTCTTTAGCATTCCTTTTGCCCCTCA
TATTGAAGATCTGGTCATGCTTCCCACTCCAGTGCTAAGACTGCTGAATG
TGCTGGATGATGATTATCTTGAGAATGAAGAGGAATATGAAGATTGTTGT
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>Sequence 376

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GTGTTACATCACCTTTTGCTTGGAAAGATTTACTAAGAAGTCAAATAGTG
GGTTCCTTAGAGGGAAGAGGTTGGAAAGAACCATGACTGTATTCAGGAAG
GCACATGAACTGAAGCTTCTGTCAGAATGCCAATACAAGCAGTTGAGTGT
TTCGTTGCTGTGTTATAACTTCCTGAGGGAAGCTCTGGAAGTGGCAGTAG
CTGGAACTGAATTGTTTAGAGACTTTGGTACAATGTGGAAATTGAAGCTG
AAGGTGTTGATCCGAGTAAAAGGAGCCCTGGCAATACCATGCTTTTTTTG
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>Sequence 706

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AAAATCTGATGAGACCTTTATGTCTAGAGTAATGAATTCTTGTTAACGAAT
AACCAACCCCCTTTTAAAAATGGGCAAAAGATTTGAATAAACATTTCACT
ACAGACAATAAACAAATGGCCTTAAGCACAAGAGATGCTCAACATCAGTA
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TTAATCACGCTTGGTGGTGGTGCCCGCCTATAATCCAACTTCTTAGGAGG
CTAAGATGGGAGGATTGGTTGAACCCAGGCAGGTGGAGGTGAAC
CAAGAAAAAACCGGTGGACCTTTTACCCGGGTGACCGAGTGGGACCCTACT
TCAAACAAAACCGAACTACTGGGGCCCTATAAACTGCCGTTTCTTAAA

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CATAATTTACCCTTGGT

>Sequence 707

>Sequence 708

>Sequence 709

GGTACAAGCATGGTCCATACCACTGTTTACTTTTCTAGAAAGTTGTTAGA CTAATTTTTCAACAAAAATTCTTTATTGTCTTGGTAACAAAAGAAGCATA CTAAAAATTCTCAATAAGGCACAGTGTCTCTAGAAGCTTGAGCATTCAAC ATAAACTTCTAATTAACACGAACTTGTGCTCTTATTTCAGCCATTGCTGT GTGGGCTTGGAGCCAGGAGAAGATGCAGAGGAATTTTACAATGAATTACT TCCATCAGCTGCAGAAAATTTTCTAGTTTTGGGGAGACAATTACAAACAT GTTTTAT

>Sequence 710

ACGCGGGCTAATCCCAGTTATGAGGGCTCTGCCCATGACCTCATCACTTC CCAGAGGCCTTACCATCTAATACCAATACATTGGGTTTAGAATTTCAGCA TGAGAATTTGGGGGAGACAGTCAGACTGTAGCGATGATTCTGGAGTATTC ATCATTTAAGAGACACTTAAAAATGATCAGAAAGGAGGATGAAGGCTA GAACTAAGACTTTAGCGTTGAACATGGAAAGGAAGTGATGACTGCAGATA . TCTCCAGTACC

>Sequence 711

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TAAATGGAAGACACCTGCTAGGTGATACTTTTTATAAAACATATGAGTAA
GTCATATATCTTTGTTAAATTTCTGTATGTTCTTTTTTTGTATAAAGATGG
AGAGAAAGGATGGAGTGATACTAAGGACCCTAATAACATCTCTGTTCAAA

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TTAATTACTAAGTGATAGAAGTATTCATATGCCATTAAAGATTTGCCAAT

>Sequence 713

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GAGTATAAATTTAAATGAAAAACCCAGACCACAGAACAAAAACAGAAATA
CCAAAAAATAATCACAAAATATTAAAAACAGTATATAAAACACAGTGACAG
AATTAGGACTAAACATATCTGTAAAACAATAAATGTAAGGGTAATCTCAC
CAATTATGAAAAAAGACCTTCAGATCATATTTTAAAACAAATTTAAAAACT
CAAC

>Sequence 715

>Sequence 716

>Sequence 717

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Page 112 (of 261 pages in Table 2)

>Sequence 719

ACTINNNTTTTATTTTTTTTTTTTTTTTGGAGACAGGGTCTCGCTCTATCA - CCTAGACTGGAGTGCCTGGTGCAATCTCGGCTCACTGCAACCTTCACACC CCAGGCTCAAGTGTCAATCCTCCCGCCTGAGTAGCTGGAACCACACGTGC GCACCACTAAACCCAGCTGTTTAATACACCATTTTTAACCCAAAACATTA AGAAAAATATAGGAACAGTAAGTAGATTACATTTTGTAAACAGACAAGCT TACAAGTTTTCTCAAATATGAAAGTCATACTAAACTGGGAGACTGTTAAC TTCTTGATGGGGTTAATCTCTAATATGAAGCCACAGTCATAGCTAACTAC AAATTACATATACAATGCCAAAAATATTCAAAAATAACATTTTTTGCACC TTAATGATTACAAATGCTAACCAGCATAAAGACACTGGAAAGTTTCAGAA TCTCCTCATCACATACTTTCAAATATCTTCCCTTTACTTTCAATGAAATT GTACGCGGGATTCTATGGTAATGATGACTTGCCAATGTTCCAGGTGGTTT CTTAGCTAAAACTAGAGAATGCCCCTAACTTAGATGGTTTTTTGAAGGCT ATTACAATATGGTATTTGGTTTGAACCCCCTTTAAAGCTTTTTTACCAAT CTTTGTTTTACACCCCCTTTTCGGGGGGCCCCCCCCCGGGAAAAAACC CCCACAACCGCCCGCC

>Sequence 720

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>Sequence 721

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>Sequence 722

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>Sequence 723

>Sequence 724

Sequence 725

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>Sequence 726

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CAACAGAAAACTGAAATCTATGGATTCCAAGCTGCAAAGTATTTTATCT
AAATNGCAAATCAAAAAACATCTATAACATCTTGTTGGGGATACAAAGTT
CTCCTGGCTGATTCTCATGCTACAGAAAGCCCGAGTTTCTGTTCTGTAAA
TTGTGACAAGTGCCCGCGTACCTTGGCCGGGAACACGCTAAGGG

>Sequence 727 ACATTCTATTGTTATCTCTATTTTTTGGATGAAAAAACAGCAGCACAAAG AAGTTCAGTAACTGGCCTAAGGCCACACAGCTTGTCTTCCTGAAGACTGG ACCCAAACCCAGGCAGTCATAGAACATGCTGGTCGCTATTGGGCCGCTTG CTCTATGGGGGACGGTGCTCCAGGAACACAGCAATGCGGTTTAGGATTCC AGGACCTGGGCAGCTGCTTCTTTCTTAGTTCTCGACAGACCACTGA GTGCAGTTTTTCTAAATCTTTTCCCCACTTTGATATGTGGTCCATAAAAC TGCTTCCACACGTATAACCCACTGTGAAGTTTAAAATGATTTCATGTTTG GGCAAATTCCTACTGAATGTTAAGCTAGATAGGAAACAAGTTCTGACTAA CACAAATGAAGGTCTGAATGAAGAAGTCTTACTTTTATAAAGGAATTTTC CCCTCCTCACCAAATCCAAGTTTAAATGTTGATATCTCTGTTGCAAAAGG ATGATAAATAAATGGGTCCCTTGGTTAGTAGTGGGTGTATGGGTGTGGGT <u>AATAAGGTATTGAATGTACATTTAATACTCCTTCTCATTCTATACTG</u>GAT CTATCTTGGAAATGATGCATTTTTCATGTTTAACATCACTTCCTAATCCG ATATTTTTGTCTCTTAACTATTATAATATTCTTGCGTTATATAAATTATA TATTACTCTAATCGCTTGCTTCTTTCACTCTACTATTTTATCATCAACAT ACTATTCCGGTCTTCTGCTCTTACAACATGTAATTATTTCTCTACTGCTC GCTACACGACTGAACTTAACCAATATATCACTGTCTAGAAACTTCCAGCT

>Sequence 728

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>Sequence 730

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ACTCACTTAAATAATTAGTAAGATGATTTTATCTGACAATTAAAAA
AAGGTATATGTGAAAAACCTTAAAAAAAATCTATTTCATTACATGTTGAA
ATGTTCTGTGCTTAATCCAATACATCATTTAAATTCTTTTCACATTTGGA
CAACAGAAAAACTGAAATCTATGGATTCCAAGCTGCAAAGTATTTTATCT
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CTCCTGGCTGATTCTCATGCTACAGAAAGCCCGAGTTTCTGTTAAA
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>Sequence 731

>Sequence 732

GTTGCCCAGGCCGGAGTGCAGTGGCACAATCTCGGTCACTGCAAACTCGG CCTCCTGGGTTCATGCCATTCTGCCTCAGCCTCCCAAGTAGCTGGGACTA TAGTAGATACGGGGTTTCACCATGTTAGCCAGGATGGTCTTGATCTCCTG ACCTCGTGATCTGCCTGCCTCGGCCTCCCAAAGTGCTGGGATTACAGGCG TGAGCCACCACCCAGCCTATTCCTTTACTTTCTTAAACTTTCTTCAC TTTACTCTATGGACTCACCCTGAATTCTTTCCTGCTCAAGATCCAAGAAC CCTTTTTTGAGGTCTGGATCGGGACCCCTTTCCTGTAACACGACTGTATC CCCTTGGCAGACATATGAATCTGCACCCCGCTTGGTCTCCAATATCCAG GGATGAACAAGGGAGGAAACCAGGGAAAATGCTTACTGAGGCATCTTTTA TGAGCAGTCACCATGCTAGGCTCTTTACTAACATTGCTTTTTGCACTGTT CACAACAAGTCCTGGATATCTTCAATTAGAAATGTGAAAACTGAATTCCC GATGAAAAGCCCCCACTGCTTTTGACTGGCGTGGCTTATATCGGGCTTTT GACCAAGATGGACTGAATGCCATCTTGTGTCAGAGGGACTTAGACATTTG **AGGGAAGTT**

>Sequence 733

>Sequence 734

Page 116 (of 261 pages in Table 2)

>Sequence 735

ACTITITITITITITITITITITITICCACAGACACAGGCTGGGAATTTCC CAAATCTTACAAGTTCTCGTCCCCTTTCCCTTAACAACTCTTTCGGAGTA TCTCCGTCCTTTCACACTTTATTGTAAGCGAGGAGAGCAGCCAGGCTGCA CCTTTAACATTTCATTCACAGGATCTCAGCTCAGCCAAGTCCTCAGCCAT TTTGTAATGAGGATCACTTTCTTCCGGTTCCCCGTGACCTGTCCCTCGCC TCCTCTAAGCCTCAGCAGAAAGGCCTTCAACATCCACTTTTCCACAACAT TCTGTCTATGATACCTGCATTCTCTGAGATGCTAGAAGCTTTCTCCCAG CTCTCCCCTTTCCTCTGAGCCTTCACCCGAGTCCCCATTGATGTCCGT ATTTTTACCAACAAGCTCTTCACCGCTATGGAGGCTTTCTCCAGCAGGTC CCTGAAAACGTCTGCAGCATGTACGCGGGGAAGCTCTGTTTGGTGCTTTG GATCCATTTCCATCGGGCCTTACAGCCCGTCGGTAGACTCCAGCAGCCAA GAATGGTGAAACACTAACGAGAGACAGATTGGTTTTTAAGAAACCCTTGG ACGCCTTGCAGGGATAAACCTGGAGTTAGTTGACTTTTCACCCCCGGGGG TGGGGCCTCGGAAAAAGAACAAGCCCTTTTTTCATTTCCCTTCTTGAAAA GATTTCCAACGGGATTTTCTCTGAATAAATGTGGATGACTGCCCGGATGT **TGCTTCAAAGGGGAAAAA**

>Sequence 736

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>Sequence 737

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>Sequence 738

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AATTGCTTCTCCGAGGTTTTTAATAATAGATGAAGTGGTTAGCTTCTAAA TAAAGGATATTGTAGGTGGAATGTATAATATGGCCTAAGCCCGACAACTT CCCTTGGTTTGT

>Sequence 739

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>Sequence 740

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GCATCACACAGCACTTATCATAATCACGAAGCAGCTCCACAGAGGCTAAG
ATGAAAACAAAAATCTCAGGAAATTTATGTTTATAAAAATGATACTTGCA
AAAAAATGAATGGAACCATCTCCATTGCTTATTTAGAGTGTTGACTCACT
GAATAAGATTTTAAATTAGTCAATAGTATTGGATGCCTCTATATCTGCAT
ATCAATAGGCTCATAAACAAGGTTGCTCAAAGAACTGCCCATCAACCACT
TGGTTTCATCTCTGGACACCACACTGTTATCTTCCTTTTGGCCTCTGTCCA
TAACGGGTCCAGGCTACGTGCACCAAAGGAAAAGAATTGGGTCCTTCTCC
CCTCACCTGGTTTGGATAGGAGGGCCCAGAAAGAAGTCAGGACCAT
GTGTGACTGTCCCTAACCCAAAGCAAGCTACCGTGCAGAACCCAACCCCA
GGACAATAATCCCAGCCATGCCGGAACATGGGTTAGCTTGACCAGCACTC
ATTACAACGATCCCAGCCTTTGTTTAACAGGAAAGAACTTTTGAATAATT
ACCAAAAGAAGTCCATGGACCTTAGAACTGACCAAAAAAAGCTTTATCCTC
TAAACT

>Sequence 742

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والمستعمل المتعارض والمعلق

CTGTAATGCCAGCTACTCAAAAAGGCTGAGGCAGGAAAATGGGTTGAACC CCAGAAGCAGAGGGTGCAATGAACCCAAAACATCGCATTGACTTCAGCCT TGGCAACAGAACCCGACTCTGTTTCAAAAAAAGGAAAAAAAGGAAAAAA AAGTCCCTGCCCGGCGGCCGT

>Sequence 743

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GTGACCTGATCCTGAAAGCACCTGTAGGAAATTGGCCTCCGCCAAGTGAA
TGTGACAATGCAGTCAGCCACAGTGACGAGTGCAAGATCGGATCACCAC
ACAGATCCAAGAGACCGCTCACCACACCTGAGAAACAAGAACCCAAGACA
GCCTCATGGAGGTGGAACCGTGCTACGCAGTTATGGCTTCACTACTGAAT
GCGATCTTGCANAAGT

>Sequence 744

>Sequence 745

>Sequence 746

>Sequence 747

>Sequence 748

>Sequence 749

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>Sequence 750

>Sequence 751

>Sequence 752

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TACCCGAGTGGTATTCTTTTATAGAACTCAGCTACTAAAACCAGGGAGAG
TACTTGGTGTATTTCTGAAACACTCTGCGAAGTTGTGGATAGCTTCTGGT
GGTAAGGATGGTATTGAACACGTTTACGTCTGTCCCCTTTCTCC
CTGCTTCATACAAGG

>Sequence 753

>Sequence 754

>Sequence 755

GGTACATGTTGGAAGGGTTTTTAAAATGTTTTGAAACTGTGCACAGGCCA AACCCAACTTCAGGACATGGGTTTTCAACTTCTGGATGGTATGATGGGG TGATAGTAGGGTATAAAAGTATCCTGAGAAGTTGAAAGCAGTGTGTGAAT GGGGTGTTCTTTTCTCCCCACAATCCTTTCCCATCTGCTGACAGTAGACT TAGCACCTCACAGATGCTTGGGCCTGGAAATGAAGCCATGAAAATGAAGC CCTCAGCCTTCTTGGAGATCAGAGCCATGGTCCTCACCCACAGCACATGG GTT

>Sequence 756

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Page 120 (of 261 pages in Table 2)

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>Sequence 757

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TTCTCCAATGGAAGTGGGAACAAAGAGAAAACCCCTGTGTGTCCTAGCAC
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AAATGTGATCAATCAGCAGGCTATAGAAACACAGTTTGATACGATGGTGA
AAACTTGTCTACAATGATGTTTTTTTCAGAAATGTTGGTGTGATTAGAACA
AGTCAGCAATGATGATGACAAAATATTTACATAATGTTATAGATGTGGCT
TGCTAATGGAAATACCTATCTGAGGCTGTTTAGGAATACACAAA

>Sequence 758

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>Sequence 760

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TGAATGGATTTGAATGCTCTTTTTGCATCGGTGGATATATTTTTTTAAAT
TTTTCAAGCGGGTAATTGGGTTATTTAATGGGGGGTTTTTTTAAAGTTT
AAGGGA

>Sequence 761

>Sequence 763

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TTTTTGCTCTGAAGGCATCGCTGTGGTGGTGTGTGTGCGCAAGTAAATATA
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ATGGCCATCAGGTGGACCCAACCTTGCACACATCCCAAAGACCTGGCACT
CATCTTGGTATGAAGGGAGGTTAAAAAATAAAAGTGGTTGAACATCCTCTT
GGATGTGTTTAGGCCAACCTTGGTTACAAGACCCCTGGAATATTGTGTTT
TAAAAGGGGGGTAGGTTGGGAATCCAAAAACCCTTGGGGGACAAAATAAG
TTTCATTCCGTAACTTGTTGAGAAATTTCAAATTTTATTGGTTCCCCCAA

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GTATTGAATTAAAAAAAAACCCAAAAATTTGGGGGAAGAAAAAAAGTT TTGGTTGGGGGGTTGGATTGTTTGGGGCAATTTACCGGAACCGGAAGTGC CC

>Sequence 764

>Sequence 765

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AGAAAATCAGTATTTCATACAATCAGCTAATAGCCTAATTTGTTGAGCAC
AGAAAATACACTGAACCAATTCTGATTATTGCAGAGAAATGATTGGCAG
GATATTGGGAAATAGAATGAAGGGCGGAAAGAATTTCACATGGATTCAGT
ATACTCTCCGTCAGGAATTTTTGTTCCCTTGATCTTTTTTGTGTTTATTGC
CTTATTTATTGGGGCCCTCTCATAATAGGTGGGTTTTCATCCTAT
>Sequence 766

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>Sequence 767

>Sequence 768

>Sequence 769

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GATTCACTAAATGTTCATTTTGTGCCATTTGTGTTATTCTTTGTCTCATC
CTAGCCCAGTCAGCCTAACACCACCAGGGATAAACCAGTAGTCTGATAA

>Sequence 771

>Sequence 772

>Sequence 774

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>Sequence 775

>Sequence 776

>Sequence 777

GGTACTGGTTATCAGGATAATACTAGCTTCACAGAAGAAGCTGGGAAGTA
TTCCCTCCTCTTCTATTTTTTTGGAGGACTATGTGAAGAACTGGTATTAA
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ATAGTATCATGAGTTCCTGTGTGTATTCCCGCCTAACTTCAATAATTATC
AATAGTCCACCATTCTTATTTTACTTATACTTCCCCTCCCCAACACCTTA
CTCTTTTGGCGGGGGCTGAAATTATTTTAAAGTAAATCCCAAACATATCA
TTCACCTTTAAATACTTCAATGTATATCTCTAACAGATAAAGACTTTTTT
TA

>Sequence 779

>Sequence 780

>Sequence 781

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>Sequence 782

>Sequence 783

>Sequence 784

ACTACTCGATTGTCAACGTCAAGGAGTCGCAGGTCGCCTGGTTCTAGGAA TAATGGGGGAAGTATGTAGGAGTTGAAGATTAGTCCGCCGTATTCGGTGT ACCCCTGGGAGGTGCCAGTCATTGAATAGATAAGGCTGTGCCTACAGGAC TTCTCTTTAGTCAGGGCATGCTTTATTAGTGAGGAGAAAACAATTCCTTA GAAGTCTTAAATATATTGTACC

>Sequence 785

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CCAATTTCTCCTGGATACTGAGGGATGACTGGATTACTGTGTTTTGTGT
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TATTATTGGTCTTAAAAGATAAGCTTAGATGTGTTACTTTTTTTGGAGTTT
TAGTTTACAGTGATTCATGAATCGGGCAGCTTCAGACCACAGGAGACATG
AAGCAGGTAGAAGTTTAAGAAAGCTTGACAAGCAAAATATTTGATTTGGT
TAGAG

>Sequence 786

>Sequence 787

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>Sequence 788

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CGCGATGATGTGGCTCTGGAAGGCGGGAGCCACTTTCTTCCGTGAACTGG
CCGAGGAGTAATCGCGAGGGCTACGAAGCGTTTTCCTGAAGATGCATAAA
CCAGTCGTGTGCGGACCGCGCTTCTCTTTCCAGGAACATTCAAGGATAGC
CAAGCTGGATAGATGAAGTGGGGGTTAAAAACCTCCAGGACGGCCTATGA
AAAAGCTTGCCCATTGGGCCCCTGGTAGGAAAAAAAGCCTGAAACCCAGG
GCCCCTTTTTGGGAATCTTTCATTGCCCCCTTGGGTTTTCTTGGCCCTGC
AACGGGACCCCCCCAATCTTTCTTGTGGACCTTTCCTTGGGAAGACTTCA
ATTTTGCTTA

>Sequence 789

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>Sequence 791

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CCTGCATGCTGGGTGCCTGGCCAGCTGCCAGGGCATAAAGACAGAGACGA
TGTGGCCTTTGTCCTTAAGAATGAGGTTTGAAAGCCTCAGTTCTTCCATG
TTAGGTGATTTCTTGCAGCTCTTGGTATCTGCAGAATTAGTGTGAATGCT
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>Sequence 792

>Sequence 793

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>Sequence 794

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>Sequence 795

>Sequence 796

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>Sequence 797

>Sequence 798

>Sequence 799

>Sequence 800

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TGGATGGTAATGCTGCAACTTGGCACAGATATATTCAGTAGCTTCCCAGG
AATACAAATCTCATGTATTAACTCAATGTGGCAAGCTATCTCAGATTTGA
AGCCTAAATACTTAAATTTTTACTTTAGAATGAGTACCCTGCCGGGGCCC
GTTCGAAAGGCGAATTTCCACAAACTGGCGCCGGTACTAGGGGATCCAA
GCTCGGACCAAACCTGGGGGAATAAGGGCATAACTGGTTCCTGGGGAAAA
TGGGTTCCGTTACAATTCACAACACATTCCAACCGGAGCCTAAAGGTAAA
CCCGGGGTGCCAAAG

>Sequence 801

GGTACTGATTATTCTCCTGCTTAGGGAGAAGCGGAAGAAGGCCCTTGGAA CTGTGAGTTTTGCATTCCAACTTGCTAATTCAACATAGATCCTAATTCCT TAAATGCTTGTAATTAGAAATTCTCGTGAACTGTATTGGTTTTTGTCAAG CAATCTGTTTGGGGAACTTGAGCAACTGGGGCACTGCTGGCTAGGGTGAA GTTTATTTAATTTGTTTTTATGACATTCTTCATCTTGGAAATGGGGTTTT CAAATATTGCTTTCCCAGGCATCATTACTTATTTGCTGGTTTTTATTTCA AGATTGGGACTAGCTCAAGGTGCCAGGGAAGCGGTTTGTGGTGCTTTATA TTAAAGTCGTAATATCCAAAAAAATTGTCTGATTGTATGGGGTATCTTGG ATGTGGTACCTGGCCGGGCGGTCCGTTCAAAAGGG

>Sequence 802

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>Sequence 803

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>Sequence 804

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>Sequence 805

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>Sequence 806

>Sequence 807

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>Sequence 809

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>Sequence 810

CCCTTAGCGGCCGCCGGGCAGGTACTCCATTTCTTTTTATTCATATTAT
TTCACCAAATAATATTCCACTGTGTAGATCTATCACATTTCGTTTAGCAG
TTTATCAGCTGGTGGACAATTTGGCTGTTTCCATTTTTTTGGCTGTTATGA
ATAATGCTGCTATGAGTCATAGAAACCATTCCTCTACTCAAGAAACAGG
TTCTCCAGAAACTAAGCTAAACTTGTTTGAAATGTAAATTCTCAGGTATT
CTCAGTATAGACCTATAGATTCACTTAGCTGGTGGGGTCCACCCAACTTC
TTTTAACAAGTCCTCCAGTGGATTCTGATGCAATGCTAACATTTGTGAAC
ACTGTCAAAATCAAAATGGAGTCACTTGTGTTTAAAAATCCTGACAAATA
AAGCCAGGGACAGCTATGAAGAGAGGGGTTCTCATGCATCAATGCCTGATT
AACANAAACTATCCCAAATGACTCTGCANAAACCACAATCCTGCACAAAG
GTCATCACAAACCTTACACAAAAAAATATCTTCACAAGGACATCTGTCCAGC
AATTGCCTGTCCAATCTCAGACTGGTCACACTTGTTACTGATCCTTGTN

GGTACAATCATTAAAACTATGTTGTAATACTGTTTGTCTTTGTATCCATT
CTGGCGTGTCTCCATACACTTCACTAATATTTGATATACCTGTTTTATAC
CAATATAATGCTGCTGCTGTACGTAGAAGCTGTAGTCACCATATCCTCTA
TTTGTTCAATTATTTTTTCATCTTCTGGCACACTAGGATCTATAACAATG
ACAATATCTTCAAAGCCATTATTATTC

>Sequence 812

>Sequence 813

>Sequence 814

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>Sequence 815

>Sequence 816

GGTACAACTGTAATAGCTATTGGTCTTCAAGTGGGTTTAGATTTGGTGAC ATCAGTTTGATATTCTCTTAAAGGAAATAAATATTCAAGAACTGATTATG TTCTAACATGATTATATTCATGGTGTTACATAGGCCTCAATTTTTTCACA GAAAGATTTTTGGAACAGGACTGTGAAGTGAGGCTTTTTAAAAAAATTATT TTATAAGCAGAGAACACAGCCTGATAACTTAGTCAAGGATATACTGTCTG TCTCACTACTTTGGACTTATATGGCTTCAGATTAAGTCATCCAAGAAACA TACATA

>Sequence 817

GGTACATGTAATAGACACTATGCTACAGCAAAAGCTTTTCTTATTGTCTT
TAAAATTTTCCTGGGTGCATAAAACTATGTNGGTAACTCTTTCCCAATTT
TTAACTTTTACATTACAAGTCATTTTCAGAGTAAAAAGTCATTTAACAAA
GGCAGATAGAAAGGCCTCAAATCCCTGAGGACCAAAAATCCCAACACATT
TTCAAAAGGGAGAAAATTTCTTTAAACTTCATGGGAAAAGTATTTTTAAC
ATAATAGAGAGGCTTTATGCAGT

>Sequence 818

>Sequence 819

>Sequence 820

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CTTAACAG

>Sequence 821

>Sequence 822

>Sequence 823

CCCTTAGCGGCCGGCCGGGCAGGTACCAAGACTTTAGAGGGCAAAGAACA GAGGATTCTTGAGAAAGGGGACTTGAAGGTGAAGAGATAAAGGCTGGTGC TTCCAGGAGCGTGGGTCTCCTACGTTTGTGTTCCTGGGAAGAATCTTGGA CTCAGGCGTGGGCAGCTGGATGCCTGGGTTCCTTAGGCTTCCTCCAGGCA ATGTAGTTGCCTCTTTCTCTCCCCGCGTACATAGTAAGTGTATGATAGAT GTTTGATTTGTAAATTACAAATATAAATTATCACCCCCATTTCCATTTAT TTTCTTGATATATCAAAATGTGTTGA

>Sequence 824

>Sequence 825

>Sequence 826

GGTACTCAACAAGCAGCTGACTTATGTTTTATTGGACATTGTGATACAGG
AACTGTTTCCAGAGCTCAATAAGGTACGCGGGAAAGTCAACTCAGTTACC
TCTGTTTGGTGTGTATCACTTGCAGATGCTGTCTACCACCTTTTCAGT
GACATCCTAGAAGCTTCTCTATTACCACAGTAACTGGCTAACTAGATATG
ATCTTTCCCTAATTTTCATGAGCATCTTTTTTTCTGATATAAACCAGGGAG
GGAAAATAACAAAGTTGCTTCACTCTGAAGGAGTATTCTCCTCTAGTACC
TGCCCCGGCGGAC

>Sequence 827

GGTACATATATGAAAAGCCAACATTCTAAAGTAGAGGTTCACTTAATTTT
TTTTTTTTTCAAGAGAGGCTTCTTGGTAGTTTCATCACACAGTGGTTTTA
TTAGGGGATGTAAGGATTACAGAAACATCGTATTTTTTAACATATAGTAT
TTTTTGAATATGATTTGAATTAATATAGAAAAGTGCATTTTTTCCAGTTT
TTTTAGGGAAAAGGAGATACTTCACCAGGAGGATAAAAAGGAACAAGAGG
GGAAGGGGAAATAAAAATTCCAGAAAGATGAAAAATTGTTGATGTAAGAT

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GGAGGCACATTNT

>Sequence 828

>Sequence 829

>Sequence 830

>Sequence 831

Page 133 (f261 pages in Table 2)

>Sequence 832

>Sequence 833

>Sequence 834

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>Sequence 837

>Sequence 838

ACTACAAAAATAATGAAGCCAGCTAATTACCATCAGGTTACAACTTTACA
AAGAAGTGAAGCAGCAAAGAGCTGAAGCAGAAATGACATAGGAAAACAGC
AGCAAAGTCCTTGAGTCCCAACAGTCCACCTCAAAGACAAACATACTAAA
GAACAAAGGCCCCTAATCCACCTCCTCACCGGGTACTTINTTTTTTTT
TTTTTTTTTTTTCCAGTTTCTGTTTCAAATTCTTTATTATACATCATGGT
TGCACAATTTGAGGCTGGTTAAATACAATTGGTTTTCAAAATCTCTTTGA
ATATTTTCTGGCTTATTACATGCAAATGACCATGAAAATATTTGGCATTT
TAAAATTCTGAAACTCTGAATAGGCACTTGCATGAAGGAAAACATTACCA
TTCATAGATATCCACATGTAGAACAGATGCTCCAGCACATGGTGGTACC
>Sequence 839

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C

>Sequence 840

>Sequence 841

>Sequence 843

GGTACTTTTTTTTTTTTTTTTTTTTTTTTTTTTTGCCTATTAATTGATTAGGAAAAAATAG GTAGACCCTGAGTGAAAGTAGAAAAGAACCATTCTGGTAAAAATTCTGAA AGTAGAAAAGAACCTTTAGCTTTAAAGGTATGTCTTAATAGAGCAGTGCT AAGACAGGTGGTTAGGTATGTGAATGCATGCCACTTAGAAAAGAATATGA AGGAGAAGGGACCAAGAAGGCAGATACATTGCCCCTGATAAAGAAGTCAT TTTTCTCTCACCTTTACATAAATATCAGCCACTAAAAATCTAGGAGCACA AATAATGAAAGCGAACCCTGTTCGCTCTGTTTGTGGAAAGGCTCATTAAT ACCTGCCCGGGCGGCGGCGGTCGAAAGGG

>Sequence 844

ACÁAGAGAACGGACGGCACTTACTGAGCCCATCGCAAATGTCAGGCTCTG
TGCTATACTTACATATCCCATAATCTTCAAGACCCCTCAAGACCCCACAA
AGTAACACAAAGCAGGAAACTAACTCAGATTTACTTGCCAAAGGTCACAC
AGTTAATACATGGTGGAATCAGGACTCAAAATCAGGCCTGTGTGACTCCA
AAGTCCAGTGCTCTCCCACTTTACCAGGTAACCTTCATAATACCGGATT

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>Sequence 846

>Sequence 847

>Sequence 378

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CTGATTCCTGAGATAAGAAAGTGGATTTGATCCCCAGTCTCATTGCTTAG TAGAATAAATCCTGCACCAGCAACAACACTTGTAAATTTGTGAAAATGAA TTTTAATTTTTCCTTTAAAAAAGAAATTTTTTAAACCATCACACTTTTTT TCCCTACCCTTTAGATTTTGATAAATGATAAAAATGAGCCCATTATCAAA AGAAAACTTGTTTTTACTCCAAAATGGAATAATCTAAATTTCAAATAAT GTACCCTGG

>Sequence 379

CGCTGTCTCCATATGTGCTCATGTGTGGTATCTTACGTTACTTGTTAGTA TATAGCTCACTTTCGCGCTCGGTAGTATGGTATCGTTTGGTCAACTTTTA TTCTCTTGATTTGTATATTATCNANTNNNCNNGGGGATGGTGTCATAGAG GCGGCTACCGAGGNGCCGGCCGAGGGACTGCTAGCCAGCCAATAAAATAT AAACTCCATTTGTCTTAGTTATATAGAACTGTGTTTCCAGCTTAGAAAAA GTCAAACCAATGACTTGTAGAACAATCTACTCTCATTTTTTATTCAGCCT CTAGAACATGGAAGCTTTAAAAGTGAATTGGCTAAATAGGCAAGACCTTC TGAAAGTTAACATCTTAATGATTAAAAAACAGTAAGTACGCACAACCGAAG CGTAGAGTCACACTTGCAACAAAAGGTTACAATATTGTAATGGGCTCTGT CCGGTTCTGCTTGTCCAGCTGGACCATCTATTTCATCCTCCTCCTCTGAG CTGTCATTTAATTGCTCATAACAGTAGAGATCAGTTGTCTCTGGTTGCAA **ĂTCTAACATĂTĂTTTĂTGCAATGTAGGGTGTTCTCCATGCATGATTACAG** CTGGGTTTCTCACGTGTTCTTGATGATCTGCAACAAGACATACCTCGAC CGGGCCACCGGCCCCTTATATTATGGAATCTTTGCTTTTTGGCCAGAGGT CTTTGCTTTTTCAGGACACAAGGGCTTTTGACAGGTAATACACCTAACG TTGCAGTGACGGTGGT

>Sequence 380

TCGTTCTTTTTTTTTCTTCATTAAGTTTTTCTTTTATACTAGCTATTGTA ATATTTATTTATTGTCTTATAAATTATAATTTATTTATTACTATTTANN ATNNNTNTTGTGANATTGTCTACTGAGGCGGGCTCCGAGGTACGTTAGCT CATTTTCCCTTAAGCGGGTTGTGACGTCGTTGAAATTGCAACGCTCAAAC TTCCAACACTTGGTATACACTTGTAACCCAGCTTTGTTAATGAGACACGC ATCAAAATCAGATGAACAATTGACGGCTGTTTTGCAGTCAGCAGTTGGGT TAGGACAGTTGTAGCACTGCAGGCTATGTCCTGAATGGCAGAATGACAGT TCGGACGAGCTAGTAATCTGAACAGGACAGAACTCTCTTTGTATTCCCTA TTGTGATTGTTCACAGAACTACTTGTGTAGTAGGTTTTAACTACTACACC AATTGGTGGCTAAAGACTGTCGTCTCCTATTTATCCTTTTTTAGCCTCGA GCCCGTTTATTCCCGCGTTCCTTGCTCGGGCTGGCCGTTCTAGAACTTAG TGGAATTCCTTGGGTCTGCTTGAATTTTATTAACAAGGCTTATTCGATAC CCAGTTCAACTTTTGGGGGGGGGCTCGGGCACCCAGCTTTTTGTTAACCTT TAACTGAGGGGTTAATTAGCTCTGCTTGTTGTAATTAATGTTTATAGAAT GTACCCTGGGTGAAAATGTTATTCTTTTACAATTTACATTACAACATACG ATCCTGGCAGCTTTAAGTTTAAAGTCCTGGGTT

>Sequence 381

TTAGATGGCTCACCGCGGTGGCGGCCGAGGTACACCATGTGAAGACTGGA CTTAAACAGCTACACCACCAGATGCCGAGAGAGAGGCTGGAACATAGCCT TCCCTTTGGAGGTAGCCTGGCCCGGTGGGCACTGTGATCTCAGACTTCCA GCCTTCAGAACTGTGAGACAATATTTTATTGTTTAAGCCACTTATTTTTT **GGTACCTGCCCG**

>Sequence 382

TACTCTTTATATTTATATTTGTATTATTTCTTATAATCTTTTTACTGC... TATTTTATTACNANCAGGGTTGTGCTCGTAGCTCNCTTCGCGGNGGCGGC CGAGGTACTTTTTTTTGTGTGTTTTTTTTTTTGAGACGGAGTTTCACTCT TGTGGCCCAGGCTGGAGTGCAACGACACGATCTCAGCTCACTGCAGGGTT TGCCTCCTAGGTTCAAGCTATTCTCCCTCCTCAGCCTCCCAAGTAGCTGG GTAGACGTGGAGTTTCTCCATGTTGGCCAGGCTGGTCTCAAACTCCTGAC CTTAGGGGATCCACCTGTCTCAGCCTCCCAAAGTGCTGGGATTATAGGCA

> Page 138 (of 261 pages in Table 2)

>Sequence 383

ACCCCTCTTCTCTGTTCTTTATTAAATTCCATGCTAAATTTACTTATCGT GTACATAGGTCTTAATCTAAATTACTACGTCGATCCCCACATATCTAATT CTTCCNNNNNNAAGGGATGTGCTCCTCGCGGGCTCCGAGTACTCCAGNC CCCANATTCGGGTGTGGGACACGGCTCTCCATTCTTCTTCTTGGCTTTAC AGGTTCCCAGGTCAAGAGCTTCACCCATAATTAAGAGCTTCTGAGGATGA TCGATAAATAAACACACCTCCTCTTAACCATCCTTGGGCTTCATGGGGGT GGCATTGAGGATCCCTACAACAGGCCCCTGGTGCCGCTTCCAAAGCGCGT TTGGAACTTCCTCCAAATAAGAACAAGGACACACATTGGTGTCAGGGTAC GAAGATCATTCAGTTTCCATATGCTCAAAGGTTTTTCCACTATTCACACT CTTGTGGCGGTAACCTTTTTTCAATATTAACCCCCAAATGTCACCCCAAT CCTATTTCCTTCCAAGCTTCTTTTCTGGCCCATCTTTTTCCTTGAATCTG AGACAAGTCTGATCCAAGTTTTCGGCCGGTCTAAAAACTAATGGGGACCC CCCGGGGCTGGAAGGAATTTCCAATATCAAACTTTATCTGATACCCGTCC AACCTCCAAGGGGGGGCCCCGGTACCCCAACTTTTTGTTCCCTTTTATG AAGGGGTAATTTGCGCGGCTTGCCGTAATAATGGGCATAGCTGGGTCCTT **TGTGAAAATTCG**

>Sequence 384

>Sequence 385

>Sequence 386

> Page 139 (of 261 pages in Table 2)

>Sequence 387

AACGAATGTGTCCGTAATTGATGTCCACTTCNCACCGN CCAGCCGANNTTGATTCTTCAGTCCTNAGCGATGGAGCCCAGGGTCCCTT GTTATTGTCCCCTTTCTCTCAAATGCTTGGCTTGTTNTTCAAGAGAAC CTGTCTCGGTGGTCATTGCTCCATCGATTGGATCCAGTCCTTCTTCAAAN CATTGTTCAAGGCACTTTAANGCTAGCCTGAAANCGCTTGAATCCCTTGC TAATACTATTCCAGTGTGATCTGAGAGGGTGGTACCCTCTNGCCCGCCTC TANGAACTACNGTGGATCCCGCCNGAGGCTGCATTGGAATTCNGAATATC NANAGCTTATTNGAGTACCCCGGCNGACACCTCGACGGGNGCGGGCCTCC NGGTACTCCANGCTTATTNGTTACACCTTATAAGTNGACTGAGTTTAACT TNGTCGCACCNTATAGGCNGTCANTACAATAGTGTCAATACGGCTTGTNT TGCCTCNGTTGTGAGAAGTTNGATTATCCTGCGTCAACTAATTGCCCACA ACATACAATACCGACGCCCCGCGCAGGCTATAANANGTCGTTAATAGCTC TGGTTGCTNGCGTNATCTCGAGGTGAGGCTAAACCTCAACAACTTAAATT TGCGGNTCGCGCGCTCAACTGGGCGTGCTCTAACACATGACAGGAGAAAC CCTCGTCGGTCGCCACACTTGGCGATTTAATTGAGATTCNGGCCCAACTG CTCGCCGGTGGAGAGAGCGCGGGTTNACACTATTTAGAGGCGCTTAGTTC TCGCTTTCCTTCGACTCAATNTACCTTCCCTTGCGCTTCAGGGCGTATCA CGCTTCGCGGCCAAGACCGTAATCATACTCTCATCTCAAAAGGGCGGGTG ATACCGCGTTATTTCAACANTATATCAGTGGGATAACCGCAAGTAAATAA CACTTTGAGCACAACAGGCCCGCACAAGGCCCCATACCCGGGAAAAGCGG CCCTCCTTTGCTTGTTCTCTAAAGGTTCGCCCCCCCTCTGCGCACGAATT AAAATATTCGCACCTCTAAGTACAAGGCG

>Sequence 388

CCGCGCTTTACACATTGAGTGCTCCTTTCCCCNNCCAGNCGAGNA CCCCAGGGAGAGATCAAAAATCATCACCAACCATAATATATCATGGACTA ACCCCTAAACCTTCTGCTTAATGAATTAACTACAAATAACGGGGCAAAGA GAGCCACAGCTAATACCCCCTAAACCACACTAGCTACCTAAGAACAGTAA AAGAGCACACTCTTCTATGTAGCAAAACTAATGCCAAGACTTATATCTAG CTTACTTCAACTTTAAATTTGCCCACAGAACCCTTTAAATTCCCTCCTAA AATTAACTGATAGTCCAAAGACGAACAGCTCTTTGCACACTACGAAAAAA CCTTGTTAAGAAGAGTAAAAAATTTAACACCCCATAGTTTGCCCTAAAAC GCAGTCACTCATTTAACAAAGCTGTTAAACCTAAACACCCACTTACCTAA AACAATCCCCAACCATATAACTGAACTTACTCACACCCAACATGGACCAG ATCTATTACCCCTAAAGAAAAACTAATGCTAAGTATAAAGTAAACATGA AAACATTTCTCCTCCTCATAAGCCTGACTTCAGATTCAAACACCTGAACT GTCTTTTAACACCCCAATATCTTCCATCAACCACCAGGTCTTTATTACCC AAGGAACACTGCAAATCTTAACCCCCATTTTACCCAAACACTTACCTTTT ACCTTACCCAGTATTAGAAAGATCCTTCTTTCCCAAGAAAAATGTTTAAC GGGCCCTTAAAAACAACTGAATCCCCCGGCTTCAATAATTCAATACC

>Sequence 390

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TCGCTTACGGTGCGATATTT

>Sequence 391

>Sequence 392

CTTATATTGCCTTATATTTTATTAATACTATATTTTCTCACCGTTTTTT ATCCATAAATTTCTTGTTATATATGGTTTTGAACACTCATATAATTTTA TTATNTTANTATTATGTTTGTAGCGATTCACTCT

>Sequence 393

>Sequence 395

GGCGACCCTTATCTGGTGGCGGCCGAGTACTTCATTTACACTTAAGCTAG
AGAGTTAGGATCTTAATTTATTTAAAGCCATAGATTCAGTTTAGCTTTAA
CCTAGACAGAAAGTGAAAAGCATTTTACAAGTAGAAGAGGCAATGAGAAA
TAAGGCAACAGATAATACGTCAAAGCTGGAACAAGGGCAGAATCAGAACG
TGTCTGGCTATCAGCTTTGTTTTTTGACTACTAAGGCCAACCTTTTTATTC
CTCTGGATGGTCTGCAGACCAAGTTCAGAATTTAGGCAAAAGGATTTCCA
AATGGATCCCTATACATTTTCAGAAGATTCAGGTTGAGGAAGAAGCCACA
GAGGGCTTGTGATGAACCCAAAGGAATCTTTAAAGAAAGGGTTCTCAAA
ATGCATTGGCCAGGTAGATTTGGTTAACTTGGCAGGGAAAACTTGTCCTG
GGGAGC

>Sequence 396

CTCTTAGTGGAGGGGTTAAATTGGCGCCGCCTTGGGCGTAAATCAATGGG TCCAATAGCCTGGTTTTCCCTGTGGTGGAAAATTGGTTTATCCCGCCTCA

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CAAATTTGCCACACAAACCATTACCGAGGCCCGGGGAGGCATTAAAAGG TGTTAAAAGCCCTGGGGGTGCCCCTAAATGGAGGTGGAGCCTAAACCTG CACCATTTAAATTTGCCGTTTTTGGCGGCTTCAACTTGGCCCCGCTTTTTC CCAGGTCGGGGAAAAAACCCTGGTCGGTG

>Sequence 398

GGGACCACTCACCGGCGGCGGCGGCCGAGGTACAAAATTTAGAGGTTTCCCC
TTTATCAACAAGAGACCCAGGTGCCAGCATGTTACTACCAGATCCAGTTC
TTCTTAGGACAGTGTGGCTCAAAGGGATGAGACCTTCCAGACACTGGTAT
CTGAGCATCTGGGCCTGCCCCTGAGTTGTCAAGAAATTTCTTATCTCTGA
AGGAGTCCAGACAGGAATGCTTCCACTGCTGGGTGGTGCTCGCCCCTCT
TGCTCCTTAAGCGCCCGGCTCACCCCCTTGCTAGCACAGGGTGTCTTACA
CAGTTTATGGGACTTTTCTGTGAACTACCTGAGGGCAAGAACCATGTCCC
ACTCCCTGCTTGCTCCTCAAATATTTTATAGGAAAGCAGTCCACAGTCTC
ACACAGAGGAAACATGAAGTTTAAGTTCTAGCCCTATGA

>Sequence 399

GCCTCCTTCGCCTTCTATCTCCCTTCGTATTTATTCTGAATCTGCTCAGA TACTCATCTCTTCTTATACGTATTCTATTATTTCGTTTCACGCTCAT AGTGTATNACTCTTTTTAATAAAATAATATATGGGTTGTGCGCGGAGGCC GCCGAGTACTCGGGGAGAGAGGAAAAGAACACAGATCTCGCATGGTTCAG ATTTTTCTTTTTAGGTCCAGGAGTAAGATATATCATACGAAAATGAAAAT TATAATTCTTCTTGGATTCCTGGGAGCCACATTGTCAGCCCCACTTATCC CACAGCGTCTCATGTCTGCCAGCAATAGCAATGAGTTACTTCTTAATCTT AATAATGGTCAACTTTTGCCACTACAACTTCAGGGCCCACTTAATTCATG GATTCCACCTTTCTCTGGAATTTTACAACAGCAGCAGCAGCTCAAATTC CAGGACTCTCCCAGTTCTCTTTATCAGCTCTAGACCAGTTTGCTGGACTG CTCCCAAATCAGATACCCTTAACAGGAGAGGCCAGTTTTGCCCAAAGGAG CCCAGGCAGGCCAAGGTGATCCCTTAACGTTTTAAAACACCCGCTAAGAC ACAACCAGGCCCCAATCACGTGAAGCCCTATGTATTCTCCTTCAAAAAGC CTAAAGAGGCAGGACAGATGTTTAAATACTATTCCAGTTACATGGGCCTA CCCTGGGAACCCCTCAGAAACAGGTTCCAGGGCACCTTAACCAAACAGA ACGGTATCTGTTTGGGGAGCCCATTCCATTTTTGCTTAAACG

TGTGTATTGCCGAGGTACAGACAGTGCTTGATGTTCATAAAAAAATACAAT
GCCCTGGTAATGTCTGCATTCAACAATGACGCTGGCTTTGTGGCTGCTCT
TGATAAGGCTTGTGGTCGCTTCATAAACAACAACGCGGTTACCAAGATGG
CCCAATCATCCAGTAAATCCCCTGAGTTGCTGGCTCGATACTGTGACTCC
TTGTTGAAGAAAAGTTCCAAGAACCCAGAGGAGGCAGAACTAGAAGACAC
ACTCAATCAAGTGATGGTTGTCTTCAAGTACCTGCCCGGGCGGTCGAGCG
GCCGCCCGGGCAGGTACGCGGGGGCTAACCAGGCCAGTGACAGAAATGGA
TTCGAAATACCAGTGTGTGAAGCTGAATGATGGTCACTTCATGCCTGTCC
TGGGATTTGGCACCTATGCGCCTGCAGAGGTTCCTAAAAGTAAAGCTCTA
GAGGCCGTCAAATTGGCAATAGAAGCCGGGCTCCACCATATTGAGTGTGC
CCATGTTTACAATAATGAGGAGCAGGTTGGAACTGGCCATCCAAACCAAG
ATTGGAAATTGGCATTTTGAAGAGGGAAGACCTTAATTTCCATTCAGAGG
CTTGGGCCCAAATCCATTCTACCCCGGGTGTTTTCACCCCGCCCTTGAAGG
GGGCCTCAAAAAATATTTCATTATGCCATG

>Sequence 401

GGTCGATCGCCGGTCGCCGCCGGTTGACCTTGTATGTCACGAGCAATTAG
GAGAGTCAGAGGATGAAATAGATGAACCCGACCATGCAGTTAATCACCAA
CATCAACTACTAGCCAGACGGGATGAACCACAGCGTCACACAATACAGTG
TTCCTGTTGTAAGTGTAACAACACACTGCAGCTGGTAGTAGAAGCCTCAC
GGGATACTCTGCGACAACTACAGCAGCTGTTTATGGACTCACTAGGATTT
GTGTGTCCGTGGTGTGCAACTGCAAACCAGTAACCTGCTATGGCCAATTG
TGAAGAGATGGGAGTCTCCCCGTATTGCCCAGGCCGGTCTCAAACTCCTG
GGCTCAAGCAATCTTCCCGCCCCACTTCCCGAAGCCCTAGGATTACGGGA
GTGAGCCACCGCACCCAGCCAGAAAAACGTTTCAAATATTGGAAAACCTT

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>Sequence 402

GCGATTGGAGCTCCCCGCGGTGGCGGCCGCCCGGGCAGGTACACATATCC
TCTGTGGGAAAAACTGCTCTCAGAGTGTGCACTCTCCCCACAAGCCAGCG
CTCAAACTGGAAAAAGTATCTCAATGTCCTGAATGTGGGAAAACCTTTAG
CCGAAGTTCTTATCTTGTTCGGCATCAAAGAATCCACACAGGCGAGAAGC
CTCACAAGTGCAGTGAGTGCGGGAAGGGCTTTAGTGAGCGCTCCAACCTC
ACTGCCCACCTACGAACTCACACAGGGGAGAGGCCCTATCAGTGTGGGCA
ATGTGGGAAAAGCTTCAACCAGAGTTCCAGCCTCATTGTCCACCAGAGGA
CCCATACCGGGGAAAAGCCTTACCAGTGCATTGTCTGTGGAAAGAGATTC
AACAACAGTTCCCAGTTCAGTGCTCACCGGCG

>Sequence 403

>Sequence 405

GGGCGTGTGTAGATCCCACTCCGCGGTGGCGGCCGAGGTACGCGGGGGGC
GGCGGCGGAGAGAGCTGGCTCAGGGCGTCCGCTAGGCTCGGACGACCTGC
TGAGCCTCCCAAACCGCTTCCATAAGGCTTTGCCTTTCCAACTTCAGCTA
CAGTGTTAGCTAAGTTTGGAAAGAAGGAAAAAAGAAAATCCCTGGGCCCC
TTTTCTTTTGTTCTTTGCCAAAGTCGTCGTTGTAGTCTTTTTGCCCAAGG
CTGTTGTGTTTTTAGAGGTGCTATCTCCAGTTCCTTGCACTCCTGTTAAC
AAGCACCTCAGCGAGAGCAGCAGCAGCGATAGCAGCCGCAGAAAGAGCCAG
CGGGGTCGCCTAGTGTCATGACCAGGGCGGAGATCACAACCGCCAGAGA
GGATGCTGTGGATCCTTGGCCGACTACCTGACCTCTGCAAAATTCCTTCT
CTACCTTGGTCATTCTCTCTCTACTTGGGGATGTGGCACTTTG
CGGTGTCTGTGTTTTCTGGTAGAGCTCTATGGAAACAGCCTCCTTTGACAG
CAGTCTACGGCCTGGTGGTGGCAGGGTCTGTTCTGGTCCCGGGAGCCATC
ATCGGTGACTGGGACCAAGATGCTA

>Sequence 406

TGAAATTGTTGTCCTGNGATTACCTCCCGGGGTGGCGGCCGAGGTACAG TTCACAGTGCTTGATGATAATAAATGGTTATTTTACTGGTTCATGTATTT

> Page 143 (of 261 pages in Table 2)

Table 2

>Sequence 407

TGGGGCGTTGGCCCTCTCCGCGTGGCGGCCGGTGTGCTCATCGTAGCCTC

>Sequence 408

>Sequence 409

CCACTCGCTTCATCTATTTCTATTTATCCATATACTCTGTTGTTCTTGGC **GCTATATATTTGTGTATTAACTACTTTTTTTTTTTCTTCCCACTAATTTTGT** TTTATTTTTCCTCATCCGGTGGCGGCCGAGCACCTNATTTTTTTATTTT GCTTTTTTTCGCGGGAGTTAAATAAAATAAGCATGTCTTCATCCTTTAT TCCTAAACATTTACTTATGACAAATGTAACGACTGACAGAAATTTGAAAA ATACCAGACACTTCTTAAATGATTTCCCTTGGTTCAAAATTTACCCCTTC CTATGCAGTGCAAGATTCCTCTGTAGTCTTTCCAAGTGGACGGGTATTAA AAAAAAACACTTTATATTATGCCAGGTGAGGTGTCAGAACCCTGGCTTCG TAATTTTTCCTTTTTTCTTCTGTCCTGCATGGTTTCTTCTTTTTTCTTC TATTTTCCCCCTTTCTACATAAAATTCCACTTTTTCAAATTTTCCCCATC TTGCCTTATTTTGTTTAGTTTTCTCCTTTGTTTCCACTCTTGGTTGAATT TTTTTTTTTCATTGTCCTTCTTTCCTTTTTTACAAGTTCTAGCCTAT CCCAGGTTTTTAAAGGGTTTTTTCCTAACTTTTTCCACTCGGTTATTCAA

>Sequence 410

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CCATTTCTCCAAGGGGGG

>Sequence 411

>Sequence 412

GTTGATGCCGCCGCCAGGTACTAGAGTTTTCAAGTATGTTCTAAGCAC
AGAAGTTTCTAAATGGGGCCAAAATTCAGACTTGAGTATGTTCTTTGAAT
ACCTTAAGAAGTTACAATTAGCCGGGCATGGTGGCCCGTAGTCC
CAGCTACTTGAGAGGCTGAGGCAGGAGAATCACTTCAACCCAGGAGGTGG
AGGTTACAGTGAGCAGAGATCGTGCCACTGCACTCCAGCCTGGGTGACAA
GAGAGACTTGTCTCCAAAAAAAAAGTTACACCTAGGTGTGAATTTTGGCA
CAAAGGAGTGACAAACTTATAGTTAAAAGCTGAATAACTTCAGTGTGGTA
TAAAACGTGGTTTTTAGGCTATGTTTGTGATTGCTGAAAAGAATTCTAGT
TTACCTCAAAATCCTTCTCTTTCCCCAAATTAAGTGCCTGGCCAGCTGTC
ATAAATTACATATTCCTTTTGGTTTTTTTAAAGGTTACATGTTCAAGAGT
GAAAATAGATGTTCTGGTTGAAGGCTACATGCCGGATCTGGTAATGAACC
TTGTAATGCTGTATTTGCTTCACGGCTTACTATAAATGTTACTTAATACA
TATCAACTTATTACAATTTACTATAGAGGGTATAAGTAAAATTAATCTCTA

>Sequence 413

>Sequence 414

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CTTGAACTTGTTTTGTCTGCTTCCGCTAGCGGATTTAGTTAACTCAAAGC TGTAATTCCGGTATCTCAAAATAATGTGATTACCCCGGAATTACCTTTTT TCAATGGTCTCTAAAATGCCATAACCTTATAAGGGCCGGTTGATTACGCT TTCATATAGTTGGCCCCCTGCCAGTCTATAAAAAAGT

>Sequence 416

>Sequence 417

>Sequence 418

>Sequence 419

AGGTACAGTATATTGACCTTAAAAATCAGTAAAGCAGTCATGGAAATAAC AGGTCGTGTATTATTCATGGGCACAAACTGACTCATGGCTGGGGAAGAAG CAGCCACCTTAGACCAGATGGACAAGCCAGATACTGCAGAGAAGTTTCTG

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GGCTTTTNGGGAGACTCTAGATTCAATTCTGTAAAGTTATGATGCAGTTT
TCTCCTTCCTCTCTCACCTCCTCTGAGCACAGCTTTCAACAAAAACT
TTGCATACCCCGCGTACCTGCCCGGGCGGCCGCTCGAGGTACTTCTCTGA
GCATTGGCCTCTGGCTGGGATTATGCTTCAACAGTCTTGAAATGAGGTCC
CTGGCTCCCTCTGTTACAAAGTCAGGGAATGTGAATTCAACCCGTGATAT
TCTTTTGTAGGTCTCTTGGTATGTGTTTGCCTCAAAAGGAGGCTTCCCAA
CTAAAAATTCATAGCAAAGAACTCCAAGGCTCCAGAGATCCACCTTCTCA
TCATGCATGCGACCTTCAATCATTTCAGGGGGCAGGTAGTCCAGGGTGCC
ACAGAGAGTGGTCCTGCTGGAAGAGGAGCATGTACCT

>Sequence 420

NCCCGATGCGNCTTACTTGAGGCGCCCGAGGTACGCGGTGGTCGGCGCCA
TTTTGTCTCGGCAGCGGTGGCCGTAGCTCCATCGCATTTTATGTTTCTGG
CGAGAAGGGAACGGAGTTTTCATCAGGTAGATTGGTTTTTGT
>Sequence 421

GAGGGGATCATCCGACCGGGGGGGGCCCCCCCCTGCCCTGAAAGACCTCC
TGCTGGAAGACCTCCAGGATGGAGAAGTGAGGCTGGGTGGCTCCCTGCGA
GGGGCATTCAGCAACAATGAGAGAAATTAAAAACTTCTTCAGAGTCAGTTT
CAAAAATGGATCCCAAAGTCAGACCCACTCGCTACAAGCCAATGACACTT
TCAACAAACAGCAGTGGCTTAACTGTATTCGTCAAGCCAAAGAAACAGTT
TTGTGTGCTGCCGGGCAAGCTGGGGTGCTTGACTCCGAGGGATCGTTCCT
AAATCCCACCACCGGGAGCAGAGAGCTACAGGGAGAAACAAAACTTGAGC
AGATGGACCAATCGGACAGTGAGTCAGACTGTAGTATGGACACGAGTGAG
GTCAGCCTCGACTGTGAGCGCATGGAACAGACTCTTTCTGTGGAAA
CAGCAGGCACGGTGAAAGTAACGTCTGACAGAAGCATGTGCACTTCGGGA
AGCAGGCCTGCATCTTACCTTGCCG

>Sequence 422

>Sequence 423

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>Sequence 424

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GTGTGGTGGAGGACGACAAGGTGGGGACAGACTTGCTGGAGGAGGAGATC ACCAAGTTTGAGGAGCACGTGCAGAGTGTCGATATCGCAGCTTTCAACAA GATCTGAAGCCTGAGTGTGGGTACCTGCCCG

>Sequence 425

TGGATGATGAAGTCCTCACCGCGGTGGCGGCCGAGGTACTAAGTGGTTTA
AGGATGAAAAGAGCTAACAAGTGACAACAAATACAAAATAAGCTTCTTC
AACAAAGTATCCGGCCTTAAGATCATCAATGTAGCGCCGAGTGACAGTGG
GGTATACAGTTTTGAGGTGCAGAACCCTGTTGGCAAAGACAGCTGCACAG
CTTCATTGCAGGTTTCAGGTTGGTTGATTTCTTGGGCTTTTCCTTCATCA
TTATAATAATGTAGTTCCTGATTTTCATAAATGTATATGGGTTGTTACAT
CTTCTATAGGATAACATGAGTCCGACATCTTCTGAATCAGCAAATTCAGA
GGCAATACCATCTCAAGAAGCCACCATTGAGACCACAGCCATTAGCTCAT
CCATGGTCATCAAGAACTGCCAGAGGAGCCATCAAGGCGTCTATTCTCTT
AAAATGAGAGGCAGGACTGGCTAGGGTGATGCCTAAAGATGATTCCCAGG
CTTGACATGCTGGTATTCTTACATATCTATTCGTGGCTGTATAATCTGTG
CGATGAAAATTCCAAAACCGAGACAGGAATTCGCACTTGTTAAAGTGGAA
GCTCCAAGCCTGAGATCCAATTGG

>Sequence 426

>Sequence 427

GAAATGATTANTGCCTGACCGCGGTGGCGGCCGAGGTACCTTACTTAGCA
GAGCACTTTGCAAACATATTACTTATTAGCAGAGCTCTTTGTAGACCTTC
CACATCTGGCTGTCAGATCTTAAGGTTGTGAATTTAGGCTCCAGTTATAT
TCACTGGAGAGCATAATCCCACACGGGTTATTTATAAATACAGAGCCTCT
GATTGGACGGTCTCCTGCCAAGAACTAGTAATACCCTTGTTTTAAAATCT
TCACAAGGTAAAACTTAAAAAGCCAACCAAACAAATTGCTCTCCATTCTA
CTTTTAATTGGGCCAAACAACAATTGCTACAGTAGTAACATGTTTTTCGG
AGAGTGTAAAAAACTCTGTTTACATTTGCCTCCTCCGTGGGTTGATCGAA
AATGTATAAAAACTGACTGCTTCTCGCCAGCCTCAGACAAGAAGAGTGAGC
TGCTGGT

>Sequence 428

TCTACACGCGAACTTTGCACCTCTCTACATATCGTATGTAGTATGACTTC
TAATTTACTTCATATCTGACTCTACCTCTATCATACAACTATTCGTCTAA
TAAGTTTGTATACGATTATTAGGTGTGAGAGCATCATCATCATTACCACA
TACAANTAAGGGGNNNNGAGTTGATTTGATGCNCCCTTCGCGGAGGCGGC
CGAGGTACAATTCATCTAACTTGCGGAAAGCACTTTCAGGCCAAATGCAG
AAACGTCCCACATGCCCACCAGGAGCAAGCTTCAAAATGTTCACTTGGGG
CATTAGGCAGAGTAATTCCAGGGATGTTTCTGAAGGCCTTGATGATACCA
TTATCCTCATTATAGATGATGCACGGGCCCCTGCGCTGGATACCGCGACG
GTTTCTCATTTTGCCTTTGACAGCTCTCATTCGCTGAGAGGCATAGACCT
TTTTGATATCATTCCAGGCTTTAAGGCTTCTTAAGGAGCAAAACAGCTTC
CTTGGTCTTATTGTAGCCTTCAACTTTATCTTCAACTACCAAAGGAAGTT
CAGGAACTTCCTCAATACGATGACCTTTTAGACATGACCAGTGCTGGTAGG
GCTGAGGCAGCCAGGGCAGAACAGATGGCGTATCCTTTTTTGGGTTTCCCGC
GTACCTGCCAG

>Sequence 429

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>Sequence 430

>Sequence 431

GAAAGTTTTCGTATCGGGGGCGGCGAGACCAAACAACAGCCCTCCAACAA
TGATGACCAGTGGAAAAACAATGGAGTCACCAAAACCTGGGACAGGCTCA
TGCTCCAGGACAATTGCTGTGGCGTAAATGGTCCATCAGACTGGCAAAAA
TACACATCTGCCTTCCGGACTGAGAATAATGATGCTGACTATCCCTGGCC
TCGTCAATGCTGTGTTATGAACAATCTTCGAGCGGCCGCCCGGGCAGGAC
GCGGGAGTTCAAGAAGCTGGTGGTCAAGGAGGAGGAGGTGGAGGTGGCAG
TGGAGGAATTGCAGAAGCTGGAAGTGGTCATATGAACTACATTCAAGTAA
CACCTCAGGAAAAAAAAAGCTATAGAAAGGTTAAAGGCATTAGGATTTCCT
GAAGGACTTGTGATACAAGCGTATTTTGCTTGTGAGAAGAATTGAAAGGGAC
TTTTTTATATCTCACACCTTCACACCAGTGCATTACACTAACTTGTTCACT
GGATTGTCTGGGATGACTTGGGCTCATATCCACAATACTTGGTAAAAGGTA
GTAAATTGTTGGGGGTGGGGAGGGGGGGAACTTGAT

>Sequence 432

>Sequence 433

> Page 149 (of 261 pages in Table 2)

CTGGCACAAATGGTACCT

>Sequence 434

TGGCTATAGAGACTTCCTCGCGGTGGCGGCCGAGGTACTTTTCTAAAAGC
TCATCCACTCTATCATTTAGATATCCAATTTTCAGAATGTGCTCAACATT
GGCCACTCCATCTGCCATTCTTAAGTCTCCTTGGGAGTCTCCCAGAAGAA
TTATGTTACTATTGTCTTTTAGTTGATTGAAATATTCTGTATTCCTCAAG
GCACCATCATGTTTGTTAAATACATGAATTAGTTCTCCTTTAAATCCTTT
GAGCACCCCCTATGAAAAATATAAATCTTTTGAACAGGCTTTAAAAATTC
TATTTGTTGGATTTTCATATTTTGGAGCTCTTAATTGATGTCACTATTAT
TTCATCATATTTGTAAATACATCTTTGATACTAGAGATCTCAAAGCACTT
AAGTCCATCACATTCACCATAGCTAAGAAGGGCTCGGAGAAGTAAATGAT
TTTTTAGATACTATTTTAAATGGTAAAACAAAAGCCGGGCGCAGGGGCTC
ACACCTGGTATCCCAGCACTTTGGGAGGCCAAAGAGGACAGATCACTCAG
GGTCAGAGTTCGAGACCAGACTGGCCATATGGTGCCAACCCCCCTCACTA
AAATAAAAAATTAGCCACGTTTGTGGCACGCACTGTAAT

>Sequence 435

GGGATGATGTGACCCTGTCCGCGGTGGCGGCCCCCGGGCAGGACGCGGG GGTTGCTCAAACCGAGTTCTGGAGAACGCCATCAGCTCGCTGCTTAAAAT TAAACCACAGGTTCCATTATGGGTCGACTTGATGGGAAAGTCATCATCCT GA

>Sequence 436

>Sequence 437

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TTATCTTAGTTGTGTACGTTATACTCATGTATCAGTTTGTAATTTACTAA
AATTGTATCTATCATATAGTTACTATTTTNTNNTATCTTGCTGTTGTCGGT
TGGCGGCCGATGTACCTTTTTAGAAGAGAAAAGAATCTTGAATTGTATAT
ATTTATTTTGCTTTACAGAAAAAAATGGTTTCGTAAATAATTTGCCTATT
TTGGTTAACATAGCACATGGAGATAATCATCTGAAAGTTATAGGGCACTG
CCACTGCTGAATCAGAGCATGCCCAATATTTGAGGTGGCTCTGATTTCCT
GGCAGCTGAACTCGGGTAGTCCAGTGGCCTAGCTGGTCCTGCCCG

>Sequence 438

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AGTCTTCATCATTTGGGCATCAGAATATTTCCTTATGGTTTTGGATGTACCTG

>Sequence 439

>Sequence 440

TGGTGTATGTGCCTGACCCGGGGCGGCCGAGGTACGCGGGATGTCTAAAT
ATCTTGTAAAAAGTGTTAAAATAAACAAACCCAGTCAATTAAAAATTTTG
ACTGTTATTGAGAAAACTCCAATGAGGGAAATAATAAGATCTATAAAGGT
CTTAAGAAAAATATAATTTGAAAAAAAACATGTGGCTGAGTGTGGTGGCTC
ACGCCTATAATCCCAGCACTTTGGGTGGCCTAGGTGGGCAGATTGCTCGA
GTCCAGGAGTTTAAGACCAGCCTGGGCAACATGGCAAAACCCTGTCTCTA
CAAAAAATTAGCCAGGTGTGGTGGGACACGCCTGTAGTCCCAGCTACTCA
GGAGGCTGAGGCAGGAGGATAGGTTGAGCCTGGAAGATCGAGGCTGCAGT
AAGCTGTGATCACACCACTGCACTTTAGACTGGGCAAAATAATTGTTTAA
TGATAAATGAGGTTCCTGCCCG

>Sequence 441

CGGATGTGANNATTGATATAGCGACTCCACCGCGGNGGCGGCCGAGGTAC ATTGTAGCTTTGAACTCAGTGTTTAAAAATTCAATCTGGTTACACACTCT ATCTTCTAGATCCCTTGAGACACTGTCTTCCTTGAATAAGGGCCAGGTGA AATGGCATTTCAGCTGTGGAAGGATTTTCTCCAGGGAATTCTTGGTGACC TCACTCATGACTGCCCTCTGTGTCTCTGCTGTTCCGAAAAGCTGGTGACC AGGCTGATTTGTTCTTCAGAAGTCTTCCTGTCTGCCCCCGCGTACTGTTC CTGCAGGTTAAGGCAGGACTGGAACTCCTCCACAGCTTGCACATAGTTTT CAGATTCAACACTAACTTCTCCGAGTTTAAGATGTGCCTGGGCAGCATAA AGCTGTGCTTCTTTGTTTCTTGCCTTTTAAAAATGATCTTTGCTAAATC CAGCATATCCCAGGCAAGCTCTAGGTTCCCAATCTCCTCCTCCTCATTTT CTTGAAGAGACTTGTTTTCAAGGACTGAATCATTTGGCATTTCTTCAGTC TTATCATTTTCTTTATCATCCTCTTCCGAGCCTTCAGTTTCTTCACCCTC TTTCATCTGGTCTTCTCTCTTGGGGCTCTTCATTAGCAGCTATCTGAA CTTTGGCTTCAGGTGATTTCTCAGTAGCTCCCTGGGCTACCTTGGTAATA ACCCCATCTCCAGCTGCCTCAAACTCTTTTACAGACAGCNTAGTCTCCTT CTGACTGGGAACCAGCTTTGCCCTGACTTCTNCTTTAGATCCG >Sequence 442

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>Sequence 443

>Sequence 444

>Sequence 445

TGACGATNAGATCGGAGTCCTCACCGCGGTGGCGGCCGCCCGGGCAGGTA
CTTTACTAAAATGACTGCATTCTTTGGATTCCTTCAGTCTATGGTTCAAG
TCACTAAAGATTCATTTTTGTTGAGTCCTTATGAGAAACAGCAGTATGAA
TCTTGACGGTTTCTGCCCGTCCTAATGGCAGAGCTCTCTGACTTGGGTGT
ATGCTACCAGGCTGGGTTCAAGTGAGAAGTTCTGGTCAGTCTTCTGTGGG
TTGAAGGTTCAATATCAATTCTGTTTCAAAGCCTTTGTGATGCTATTTGA
ATCTTTGCTCGGTATATGCCACCCAGTGGTCAGTCTGGGACCTAGGTGGT
GAGCTATCCCATAGTTCATTCTCAACGTCTTTACTGCACTGTTTAGGGTC
AGATACACATATATATACAACTTTGGGTGAGCTCAGGAGTTTATAAGCTT
TATGGGCTTGGTGTTTTGATTTATAAACAGGAGTTTATAGAACTTTATGG
GTTTGCTTCCTTTTTCTGCCAGTTCCCTTGTATTTTCCAGCCCTTAAAAC
TCCTTTTTGGGTCTGTGTTCCAAAGCTGGTTCTTAGTTACCCTACTTGTT
GACCAGTTTCACAGTGTG

>Sequence 446

TGATGATGATTCCCTNATCCGGTGGCGGCCGAGGTACGCGGGGAGACACA
ACTTCCTGGGCTTAGATATTTCAGAATATCACAACTAAACTCTTAAAAAT
TTCTGAAGGCTGGACACCGTGGCTCACACCTATAATCCCAGCACTTTGGG
AGGCTGAGGCAGGCAGATTGACTGAGCTCAGGAGTTCAAAACCAGCCTGG
GCAACATGGCGTAACCTCGTCTCTACAAAAAATGCAAACATTTGCTGGGC
TTGGTGATGTGTGCCTGCAGTCCCAGCTACTTGGGAGGCTGAGGCAGGAG
AATCGCTAGAACCCATGAGGTGTAGGCTGCAGTGAGTCATGTTTGCACCA
CTGCAGFEEAGCCTGGGTGACAGTGTGTATTAGTTTGTTTTCATGCTGCT
GATAAAGACATACCTGAAACTGGGAACAGAAAGAGGTCTAATTGGACTTA
CAGTTCCACATGACTGGGGAGGCCTCAAAATCACGGTGAGAGGTGAAAGG
CACTTTTTACATTGGCAACAAGAGAAAAATGAGGAATAAGCAAAAGCAGA
AACCCCTGATAAGCCCATCAGAATCTATGAGACTTATTCACTATCACAGA
ATAGCC

>Sequence 447

ATTATACTTACCTCTTAGATTTATTTATCTCAAGAATATATCGATTTCAT

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CTTTTATACTTANTTGTACATATTTTTTAATTATATATATTCTATTTATTAT
TATACAAACNATCTAATGCGTTGTATCTTCTCCGGTGGCGACGAGGTAC
GTTTTGTGACAGGCAATAAAATTTTAAGAATTCTTAAGTCTAAGGGACTT
GCTCCTGATCTTCCTGAAGATCTCTACCATTTAATTAAGAAAGCAGTTGC
TGGTCGAAAGCATCTTGAGAGGAACAGAAAGGATAAGGATGCTAAATTCC
GTCTGATTCTAATAGAGAGCCGGGTTCACCGTTTGGCTCGATATTATAAG
ACCAAGCGAGTCCTCCCTCCCAATTGGAAATATGAATCATCTACAGCCTC
TGCCCTGGTCGCATAAATTTGTC

>Sequence 448

>Sequence 449

GANTTGTGCCTCTCGCGCGGGGGGGGGCGGCGGGTACAAAAAGCAGGGGCCC
AGCCCCAGCTGTTGGCTACATGAGTATTTAGAGGAAGTAAGGTAGCAGGC
AGTCCAGCCCTGATGTGGAGACACATGGGATTTTGGAAATCAGCTTCTGG
AGGAATGCATGTCACAGGCGGGACTTTTTCAGAGAGTGGTGCAGCGCCAG
ACATTTTGCACATAAGGCACCAAACAGCCCAGGACTGCCGAGACTCTCGC
CGCCCGAAGGAGCCTGCTTTGGTACCTGCCCGGGCGGCCGTCGATCTCCT
TGTGTTCAAGCAACTTCTTGCGGTAGTCCTGAAGCGCCTTATCTCTAGGG
TCCGCCATGATGAGAACCCCGCGTACCTGCCCG

>Sequence 450

TGGGATTTGCCCCTCCGGGGGCGCCGAGGTACTCCCTACGGCACTAGTC
TACAGGGGAAGGACGCTCTGTGCTGGCAGCGGTGGCTCACATGGCCTGT
CTGCACTGTAACCACAGGCTGGGATGTAGCCAGGACTTGGTCTCCCTTCCC
GCGTCAAGAGATAGAAAGACCAGTCCTTGTGAAAGACAAGTCTGAATGCT
CCACTTTTTCAATTCTCTCTCCATTCTTCAGTAAGTCAACTTCAATGTCG
GATGGATGAAACCCAGACACATAGCAA

>Sequence 451

TGGTTATGGACCTCACCGCGTGGCGGCCGCTAATGTTAGAAGTTAAGTTG GAACCTATATTGTAGAGGAACAAAAGCCAATCAGTGTCCTTTTTGTCTTT TTTTACATAAACTTTTACTACAAAAATTAATATATGGATTTTGAATTTCC

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>Sequence 453

CTTTATCCCTTATATACATAAATATTATTATTGTTAACACAACTGTTATA TATAACATTATAATATAGTATACTCTATTTTGAGCACAAGATGATCTCTC ATCCANNNAAGGGTGTTGTTAGATTCCATTCCCCGCGGCGGC

>Sequence 454

>Sequence 455

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>Sequence 457

TGCCGTTTGAGTCGACTCAGGGGGGGGGGACGTATATTACTGTGCGAGAGGT AAAGGATATAGTGGCTACGATTACGGCCTCTCT

>Sequence 458

>Sequence 460

>Sequence 461

CTCTTACCCTCGTCTCACTGTACTGATAAACATTTATCTTGCTCACATGT
ATATTTTATACTCTATCTATTGTCTGTAACTCTCACAAATGCACTGAAGA
TTATTGTAGTAATAGTGATTATGTTTTCTCTGTATAATTTGGGGGTGATTC
GTATCAGTTGCCGTCGGCCAGGAACGCGGGGGCTGTCTACCTGGAGT
TCTAGCAAGTCGGCCAGGATGTCTAAGGCTGAGTTTGAGAAAGCTGCAGA
GGAGGTTAGGCACCTTAAGACCAAGCCATCGGATGAGGAGATGCTGTTCA
TCTATGGCCACTACAAACAAGCAACTGTGGGCGACATAAAAACAGGAACG
GCCCGGGATGTTGGACTTCACGGGCAAGGCCAAGTTGGATGCCTGGAATG
AGCTGAAAGGACTTCCAAGGAAAGATGCCATGAAAGCTTACATCAACAA
AGTAGAAGAGCTAAAGAAAAAATACGGGATATGAGAGACTGGATTTGGTT
ACTGTGCCATGTGTTTATCCTAAACTGAGACAATGCCTTGTTTTTTTCTA
ATACCGGGGATGGTGGGAATTCGGGAAAATAACCAGTTAAACCAGCTACT

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CAAGGCTGCTTACCATACGGGTCTAACAGATTAGGGGCTAAAAACGATTA CTGACTTTCCTTGTGTAGTTTTTATCTGAAATCAATAAAAGGGGATTGGT ACCATAAAATTCTTTCTTATTCTTGTCCCTTGGCCGTTTAA

>Sequence 462

>Sequence 463

>Sequence 464

>Sequence 465

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>Sequence 466

TGGGCTGATGGCTTCACCGCGGGGGGGGGCGCCGAGGTACGCGGGGAGGTCGGT GCGCGCTTCTCCCGAGGTGGAACGGGCGGCAGTCAAGCGCCGGCGTTCTC TGCCGTCACCCTTTCCTTGC

>Sequence 467

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>Sequence 469

GCGATTGGAGCTCCACGCGGTGGCGGTCGGAAGGAGAATGGTATCACTCA
GGCTCTCAGAGTGACACTGAAGCAAGACACTCATGGGGTAGGACATGACC
CTGCCAAGGAGTTCACAAACCACTGGTGGAATGAGCTCTTCAACAAGACT
GCGGCCAACTTGGTAGTGGAAACTGGGCAGGATGGAGTACCTTCAGGATT
GGCCTGTTATCTTCTTTAGAACTAAGTTCATCTTAAAAATTTAAGAAGGT
GGACATTTCAACACCATCAAGTGCATTTAGGTGACATGTTTAAGTTAACT
TGACTTCCTTGAATGACCTAGTTAGTAAACTAGTCACTAGTAATTCGGTC
ACCAAGCAAATCAAGCCTGCAAGAAAGGAAGCCAATATTCAAAATGCCAT
GTTACCATCTAAACCC

>Sequence 470

TTGGAGCTCCCGCGGTGGCGGCCGAGGTACTGATTTTATTGTCTACCTC
TCTGGACTTGCTCCCAGCATCCGGACCAAAACCATCAGTGCCACAGCCAC
GACAGAAGCCGAACCGGAAGTTGACAACCTTCTGGTTTCAGATGCCACCC
CAGACGGTTTCCGTCTGTCCTGGACAGCTGATGAAGGGGTCTTCGACAAT
TTTGTTCTCAAAATCAGAGATACCAAAAAGCAGTCTGAGCCACTGGAAAT
AACCCTACTTGCCCCCGAACGTACCTGCCCG

>Sequence 471

ACTCACCTAACTTATATTCCTAGTTTATTTAAGTTATATTGTTACATATT
AACAATTACTGATATCTGCTGACTAAATATCTACTACACCTTCTCATACAC
TTCAACACTCCTATATATTATATTTGTATCTAGTGTATATTTTATNNAANN
TCAGTTNGGTATGCTGATCGCGTTGCGGGCGNCCGGGCAGGTACTATGGG
TGTAGTGTTACTATTACAGTTAATTCGTCCTTTGTGTGCGCTGATAAATG
CAGTGAGGATTGGAGCACTGTCCACTGAGTCTCTGTGCAACAACTTATCG
GTGTGGCAGGGGTTTCCGGTGTCTGGCTCTGATCTTGGTCGCTGGATAGT
CGTCTGTGTTTTTTCGGTGCCCAAGGCGACGGCTTTGGTATGGGTTCGTG
GCGGGGTGGTTGGCCAAGTGCTGTCTAATAATTTCAGGAGAGGATACTTT
GTTGCTGCTGCAGGATCAGCCATGGTAGATTATGGTTTTTTGAGAACCAGA
TGGGGCACACAATTTCTAGTGTGCCCATTTAACAGGGTCTTTCAAAGTAC
CATG

>Sequence 473

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TTTAAGAAAGGCCTTTTTTTCATCTTTTATACTATATTCTGTTCTTGGCC
TGGGGGGCCTTTTTAAAACTAGTGGATCCCCCCGGGTTGTGGGAATCGTT
TTCAGCTTTATTTTACCTTCCACCTTAAGGGGGTGCCCGGCCCCAACTTT
GTTCCTT

>Sequence 474

TGCAGATGGAGCNTNTACCGGGGGCGGCCGCCCGGGCAGGTACGCGGGGGAGCTGAGCCGGGGGGGCGCCACGGCATCCTGTGCTGTGGGGGCCTACGAGGAAAGATCTAATTATCATGGACCTGCGACAGTTTCTTATGTGCCTGTCCCTGTGCACAGCCTTTGCCTTGAGCAAACCCACAGAAAAGAAGAACCCCGTGTACTTCTAAAATTGCACTTTATGTTTTTGTAGGCTTGGAGCTTCTTGATTATGTTTTTGTAGGCTTTGGAGCTTCTTGCATAACATTCAACAAAATTCAACAACAGAATCAATACTTTGCATAACATTATGGATGCTTTTTCTGTTTTGTACCT

>Sequence 475

GTACGATTGAGCCNTTTTGGAAGCCGCTCTCCCGCGGTGGCGACAGGGTT ACATTGGTAAGGGTGACAGTTAGAAGGGGAAGTCCTTTTAGTGAAATAGA TGAGAGGTTTTAGA

>Sequence 476

TCTCTCTCATCTCCCACTTTTCACTCTATTGTGACTAACACTCTTTTCTT TCATCTTTNATCNCTTGGAGTGGANCTTTGGGAGGCCTNTCCGCGGNGGC TACACGCTAGGAACCTTGCAGCTTACAGTGACAGAGCTCCCATTCACGAG GCCACCACTCATCTCGATTTCTGGATCTCTAGGGAATGAGTAGAGCTCCA CCTGGATTCCCTTTTCCAGTTTCTTATGTCCACAAGTCACTGTGCACAGA TAAGAGTGTTCGTTCTCAAAACTCACAGGGCTCAGGGTCAGCGTGGAATT GGTCCCCTTCACTCCTCACCTTCCCGCTCAGAGGGCTGTCTATCTGGGTT CTCCAGGAGAAGATGGGGATTCACAGCCCATGACACCTACATGTCAACA TGACTGAGTCTCCAATCTGAGCAGCAATCCGGGGTCCAGGGGAGATCTCA ACAGTAAATGGTTTCTCTTGGACAAATTAATTCCACCTCTTTTCTGGTTT TCCCCAATCAAATTAAACTTCTTCACACCACATTAAATTCCAGAAATCTT CCATCCTTATAACAATTAAAGTGGAGAGTTGGATTTCCAGAAAGGTGCTT GAAATTCCCATAATCTAAATTCTTACTCCAAAAAATTTTGGGAGCTGGAG ACCCTTGCTTGGACCAGGCAATGGTACGGAGCCCCTTTTTGGAAGTTGGG **GGAGGGATCACAGAAATAACN**

>Sequence 477

>Sequence 478

>Sequence 479

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>Sequence 480

>Sequence 481

>Sequence 482

CTGAGAGATCCCCTCATAATTTCCCCAAAGCGTAACCATGTGTGAATAAA
TTTTGAGCTAGTAGGGTTGCAGCCACGAGTAAGTCTTCCCTTGTTATTGT
GTAGCCAGAATGCCGCAAAACTTCCATGCCTAAGCGAACTGTTGAGAGTA
CGTTTCGATTTCTGACTGTGTTAGCCTGGAAGTGCTTGTCCCAACCTTGT
TTCTGAGCATGAACGCCCGCAAGCCAACATGTTAGTTGAAGCATCAGGGC
GATTAGCAGCATGATATCAAAACGCTCTGAGCTGCTCGTTCGGCTATGGC
GTAGGCCTAGTCCGTAGGCAGGACTTTTCAAGTCTCGGAAGGTTTCTTCA
ATCTGCATTCGCTTCGAATAGATATTAACAAGTTGTTTGGGTGTTCGAAT
TTAACAG

>Sequence 483

>Sequence 484

GGAGATGTGAACAATGTGTCATTGCTCTCAAGAGAAGGATGTGGATGGCC TGGACCGCACAGCTGGTGCAATTCGAGGCCGGGCAGCCCGGGTCATTCAC GTAGTCACCTCAGAGATGGACATCGAGCGGCCGCCCGGGCAGGTACACAA

Page 159 (of 261 pages in Table 2)

GCTTTATTGGGCAACAGCAACGAGCCACGCTGGCAAACAATGAAAGTAGA GTCGCTCAGAAACACGAAAGATCATATGTGTGTCATCACAGCATCGAGAA TTTAAATCATCTGGAAGTTCCTGCTAAATTAAAGCATACTGTGCCAGAGC TCCCCTCTAATCAAAAAACGCTGTCCTGGTGAAAATTTGCAATGAGGATT ACAGAGAGAGAGATCAACCAGTGAGGAAATCACAGACTCTTACATGAGTT TACAGTTAACCCCACTGCACAAAATAATAAATTAGCCATAATTTGGTTTT TTTTGAAAAACCATGCCCCCCACCTGACCCCACAACACACAGGTACTGG CATGCCCAGTTTATTAACAGATGGGCCTAAAACATGCTGGGGCGGAGAGA CAGATTACGGGTAATGCGCTTTGCCCGAGAA

>Sequence 485

>Sequence 486

>Sequence 487

>Sequence 488

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>Sequence 489

CATTCCCTTTCTTGCATTTATATGTTAGTTTATATATTTTATCT ATGTTTAACTATTTATTTTATTATGATTTTATTATTTTCTCTATCATAT TTATTCTATTNNCTGTTTGTTTCTGGATATCATTCCCGTGGTGGCGGCCG ACCGAAACCTGGTGAAGCCCTTTGGGCGATTGGTGATCACCCCTAGATCC GTGAAAGCTGGCTGCCCCCCATCCGGGCAAGCAGGGCCAAGGTGGCATC TTCACATTCCTGGAACCCACCCAGTAACAGCAGCAGGTATTTCTTCTGGT AAATGAGAGCCTTTCGAAAACTTTCTGCCCTCAAGTATTTACCATAAATT CTCTTTAAAGTGACATGTTCAGAATCAGGGCTCAGAGTTTGAAGTAAAGA GTCATTTCTTAGTTCAGCTTTCAATTTGTATAACTTTAGCCTCTGCCCTT TTCAAAGATTTTTGGAGAGTCAATTTTTCTTTTGTTCATACTTCTTTTTC AGAGGGCATGTTGGCTTCAATGTTGGGCACCACCATTCAATGAAAACCCT GGAGATTATTCTTACCAGCTTCCTGGCTGGCGATCCAACTGATCTGCCCT TCCAGCTTAATACCCATGTCCTTAAATCATTCTTTTTTCAGTAATTGGCT TGATTTCCCTGGCAGCTTAACATTTTGTTAAAAGTCTTTATTTCATGTGC CCCAAGAGTCCTTTGCCGTTTTAAACTGTTGACCCCCGGCTTGTGAATCG TATAAACCTAAAAATCTGTCCCTT

>Sequence 490

GGGGATATGTCGAGTCTCCCGCGGTGGCGGCCGAGGTACCTGATTTTATT TCCAGTTTTCATCCGAATCCACTGGGGAATGGGACGATTTTGCTTTTGTT TCTTGGCCAGGAATCGCTTAATCCTGAAAGTCTTGTGAGAAGACA

Sequence 491

>Sequence 492

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>Sequence 493

TTAATTTGATCGAGTCCACCGCGGTGGCGGCCGAGGTACTCATGGTTGCT
GTAAATTAGGCAGCCGTTCTGCAGGGTTTTGCTTAGCCAGGCTCCTCTGA
GATCTGGCTATTCTGTCTTGTGGATTTTCAGTCCCGGCGTACCTGCCCGG
GCGGTTCGAGCGGTCCCGGTCAGGTACATATACATTATGTAATTAAAA
AGCGTGCATGTTTATGTATTAAAAAATAATTGGATTTAAACAAATATTATA
TATACATTATAACACCTAAACGCATAGGCTGTTGTTATTCACAATAGTTA
TACCAATATTATTAATGATGTGTATGAAGACACAATACAAAGCTGGAGGA
AGTATTTAATAGGTATACTCAACTAATACACATAAATTCTAAGCAATAAA
GTACGCAAATTATGTTTTTTGGATGAATTTTTCAAAATTTTTTGCATAAAACTTGTGACA
AAAACTTTTTGTGAAATGTTTCTATTAAATTTAT

>Sequence 495

>Sequence 496

>Sequence 497

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CAAGCTTTTTTTTGGTTTCCCCCTTATATAGGTTGGAGGGGGGTTTAAAA TTTGGTCGGCGGCTTTTGGGCCCGTAAAATTCAATGGGGTTCCCATAAGG CCTGTGTTTTTCCCTTGGGTGGTTGAAAAAATTATGGTATATATCNCCGC TTTCAACCAAATTTTCCCTACAAACAG

>Sequence 498

>Sequence 499

TTCTTATATATGCTTATATATFTTATATATATATATATATATATATATATTCTTC
TTTCATGTCTACTTTAGCTTTACTCTATTTTCATATATTTTATTTTTATT
TTCTANATTCTATCTATCTAGANAGGATGCGGGGGCGGCCGAGGTACCTC
AATTGATGATTTCTGGTATGACCTAGCAAATACACTGCTTTCACTGAAAT
TTCAGTCTTGCAATCTGCTTTGGGTTCCCCAATCTAAGACAGAAACATAC
TCATTTTCCCATCACTGGACTTCCAGGTTGTTTTCAATTTTTAACTGTTA
CAAACAAGGTGGCAACATTTATCTACAAACCTCTGGATATACACGTAGGA
AGCTTTTGGTATTTCCACTAGTGAAACTGCTCAGTTGAAGGGTATGTGGA
TCTTCATCTTTAATAAATATTACCAACATGTGAAAAGCCCGACAATGTCA
AGGACTGGCAAGAGTGCCACATGTGATGGGTTTGGAGAAGCACTTAGTTATA
GCAAGAATGTCTCATAAATGGGTTCTGATAGAGACCAGAGTAGTGGGAA
TAAAAACTAGTTGGCTAGAAAATAATTATTGATCTAAAGTCAACAAAAAAC
CCTTTTTAATGTAG

>Sequence 500

TCTCTTGATCTTCGCTTTTGACCGCATATCTTATTCTGCTTATTATCTTAC
TCTAATACTATTACCTTATTATACTATCTAACTG

>Sequence 501

CTCCGCCTTCTATTATACATTGTTATTTGATTGTTATCTGATATGTTTTG
TAATGCTCTTCGCACTCTATCCAGATATATTTA

>Sequence 502

>Sequence 503

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>Sequence 504

>Sequence 505

>Sequence 506

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CACTCACCGTCGCTATTCTTTGCTCTGTTATTAAATGAGGTTCAATCTAC GTCACATTCTTATTTAATTTACTATATTATTTCTTACATTTTATTCATAT ATAACTCATTTCTTATCTNTTCTCAAGTTTGATGTACGGGTGGCGGCCGC CCGGGCAGGTACGCGGAAATCCCCTAACTTCCTTGCTATCTTCCCATCCC GGTTGCTACGCACATGTGACTGATACTTGTAATACACTAAATTGAAGTAT TTTTCATTTTAGGACTTCTCTAATTCATAATGATGTATTCCAGTTTCTCT ACAAGCTTTGGCTATTTAGTATATCTTAGCTACTTAAACATTTCTAGAAT TCTCTGGACATGGTTTTTCTCTGGTGCGAATATAAAGGTCAAGGGCCTCT TTACCAAGTTCTAAGCCAGCTCCTTTTTAAGCCTACGTCTATGTAAACCC AGTTTAATAATCTAATCATAACAAGGCAAGGACGCCCTTTTAACGGTTGG TATATTTTTTAGTTGAACTCCTAAATAACAATGGATACCTTCCAGCGAGT TTTTCTCAGAAAATTCCCTCTAACCACAATGGAAATTAGGTGGGGGAAGG TTGAACTTAAAAGAATAACTTGGAGGAAAAGGGTTATGAAATTTCAGAAA TTATGGGTGGTTTAATATTTCTTCGTCCAAAAATATTTCTTATTCCTAGG GTGGCCATGAATTTTACCCCTTAAAAGGACCTACCAACCCATTTAGTGAA ATAAATTGGAGCGGGATGTGTTAACCACATTGATTGTCAATAAAACAGGA **TACAATCT**

>Sequence 508

CTCGCTCCTTTATCTTCTTATTTTATCGATGTGATTGTATTTATCTTACT

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Table 2

TATCGTTGTA

>Sequence 509

AATTGGAGCTCCACCGGTGGNCGGCCGAGGTACACTCCCACGACCACGG CATGGTCTCTTTCATATGGCTCAANNNTCAACTGGGCCGTGGGGGGGTTA TATTCTACTNTINCATCTTTTTCACTTCNNANGCAAACACNNCCTCNNCT TANNCTTTNNANTCAATNCANTTNNCCTTAATNNAAATCACAAANTNTCC TCCATTACNCANNAANNTNTNNNCATTCANNNCCACAATCCGGGGGGGG GGTNNCTNGGCCACATCANCAAAAATCACATCCACCATTGCNATCCCNCN TACCTGCCCG

>Sequence 510

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AGGACATTCTCATTTAAACAGTTTAAANAGGCGGGGTGCGGGAGGCGGAA
AAAAAGAAATATACCCTGGCAGCGCTGCCGGCCGGAAAGCGGAGAGGGAC
GCTAAGATCAGCAAATTCGCCAGTTTGGATCCTTGTCCTTTTCCGCCCTT
TTCCCCCCATTAAATCCAGAACCCGTCACATGATAATTAAGAGGGGGCGG
CAGTTCCGGCTGCTCAAACGACTGCGGTAGAGGATCCCCCGCGTACCT
>Sequence 511

>Sequence 512

TGCGT

>Sequence 513

>Sequence 514

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TCTTCAGTGTCTTCAGCAAAGGACAACTCCTCCAGCTCTGCCTGATAGAA
CTTCTGACAGTATTCTTTAAAGTCTGGAAGGAAATCACACGTCTTTTCTC
CAAAGAGTCTGTTGGCAGTTCTAAGCAAGTACGCGGGGTAAGCAGGAAGT
GAAACCACAGAGCTTCAAAAAAAAGAGCGGGACAAGCGTATCTAA
GAGGCTGAACATGAATCCACAGATCAGAAATCCGATGGAGCGGATGTATC
GAGACACATTCTACGACAACTTTGAAAACGAACCCATCCTCTATGGTCGG
AGCTACACTTGGCTGTGCTATGAAGTGAAAATAAAGAGGGGCCGCTCAAA
TCTCCTTTGGGACACAGGGGTCTTTCGAGGCCAGGTGTATTTCGAGCCTC
AGTACCT

>Sequence 515

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>Sequence 516

>Sequence 517

AGGTACGCGGGTGTTGATCCAGTTCTTGCTTTTCAACGAGAAGGATTTGG ACGTCAGAGTATGTCAGAAAAACGCACAAAGCAATTTTCAGATGCCAGTC AATTGGATTTCGTTAAAACACGAAAATCAAAAAGCATGGATTTAGTAGCT GACGAGACTAAACTCAATACAGTGGATGACTAGAAAGCAGGTTCTCCCAG CAGAGATGTGGGTCCTTCCCTGGGTCTGAAGAAGTCAAGCTCATTGGAGA GTCTGCAGACCGCAGTTGCCGAGGTGACTTTGAATGGGGATATTCCTTTC CATCGTCCA

>Sequence 518

>Sequence 519

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ATAACTCAAGGGGGGAGACGGTTTTCCCGGAGTCGGGTTTACCCTTGAAG
ACGTGTAGCGAAATCCCCCAAAAGGCGGGAACCCAAAAAAGAACCGTTGT
TCGAGGGTTCCATAGGN

>Sequence 520

GGAGCTCACCGCGGTGGCGGCCGCCCGGGCAGGTACTATGTTGAATAAAT

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>Sequence 521

>Sequence 522

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GAGGGAACGAGAGTAAGAGAAAGAAAGAAGTGAGGGGATGTAAACTCGAA
TAAATTTCAAAGTGCCTCCGAGGGATGCAACGGGCAAAAACTGAACTGTT
CAGGCTTCAGATTGTAACTGACGATCTGAGGAAAAATGAGGTTTGTGTGA
TTTTGCTAAAATGCATCACCAACAGCGAATGGCTGCCTTAGGGACGACA
AAGAGCTGAGTGATTTACTGGATTTCAGTGCGATGTTTTCACCTCCTGTG
AGCAGTGGGAAAAATGGACCAACTTCTTTGGCAAGTGGACATTTTACTGG
CTCAAATGTAGAAGACAGAAGTAGCTCAGGGTCCTGGGGGAATGGACGAC
ATCCAAGCCCGTCCAGGA

>Sequence 524

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AAATCCCCATGAATGAACTGACAACAATCCTGAAGGCCTGGGATTTTTTG
TCTGAAAATCAACTGCAGACTGTAAATTTCCGACAGAGAAAGGAATCTGT
AGTTCAGCACTTGATCCATCTGTGTGAGGAAAAGCGTGCAAGTATCAGTG
ATGCTGCCCTGTTAGACATCATTTGTAAGTGCTGGAGTGCAGTAACGCCA
TCTCAGCTCACCGCGACCTCTGCCTCCTGGATTCAAGTGATTCTCCAACC
TTAGCCTCCCGAGTAGCTGGGACTATAGCAGTGCACCACCATATATGCAA
TTTCAT

>Sequence 525

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TGTGGGGGTGTNCTTGNGGGACCACACATCTTTCCTTCCTGGTGGGCAAC ATTCACCTGGGCTGAGCGAATGGGCACCTCANTGCACAGAGAGGTGGCTT CTGAGGACCCAGCTTCCTCCAAAGAGTGGATCATTTCCTTGTTCAAA GATCCAGGGACCCTGACCGTTCCTACCTTTTTGCTGAAGAGATTTATGAC CGGCAAGGTGGAGCCCCTGGGGCCTGGAATGAGCCTCTCCTGAAACACTG GGGCCCGGAATTCCACGCCCCTTGGCGCAGGTCACACACGCCCCGGGTCC TTCGCCCCTGGGTTGGCTTAGGGCCTCCTGGCATTCTGGAGGGGCCCTAT TCTAATACCAGCCCTCATCAAATTGGGGCTACAACCCCAAGGCCCTCTGG ATC

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>Sequence 528

AACATGGAGNCACCA

>Sequence 529

>Sequence 530

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Table 2

>Sequence 531

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>Sequence 532

>Sequence 533

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>Sequence 534

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GCAAGCACTAGAGGC

>Sequence 535

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CCNGGGCAAAGGGAAGNAACAGACACACGTTTGNGNGGAAGGATGTAACC
CGGGACCAGAGGCNCAGNGGNGGGAGGAGANCCCNGCATTACCCACCAACC
AGAACGNGGCCCGCCAGAGGCNNGAACNGAGAGAAAGANNCNGGGGCNGN
CNAANGAAAANANAGACANNCNCACANAAGCCTTGTNCATTTTCTTTNCC
GGCGTGACCGNCCACCGCAGAAACANNNCACAANAGGCNGCCGGNNCAAA
CGGGGGGGAGCACGGACTGTCAGNNCNCNGGGAAGGGNCAGCGCANCCG
GCAGGGCNNCNCCCCCGGNCNNNGGGAGAACCAGGGCTCNNCNCAGGG
GCCCCAGGGACGGCCAGGCNGNNCCAGCCAGGAAGGCCAAAANCAAGAGG
GAGANGNAGAAAGGNNGAAAAAAAGAAAAAGGGGAGNNGGNGAANCGGNN
GNNCCNNCCCCACAAANNGGANGANNGGCANAAAGGGNNNAGCANGNCCCN
CCNNNCCNCACCCCCCCNNGGNCNCCAATAAACAAGAGAAAACNCCAAAG
GAANGGGGAGGGCCGAACCCACAGGCGGAGACCCCCCCAAGCAN
NCAAGAAAAAGGCGCCCCCCAAAAACAACAACCCCCCCCAAGGG
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>Sequence 537

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>Sequence 538

>Sequence 540

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>Sequence 541

>Sequence 542

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TCCTCACTTTCCACCCCCGTATTTTGTAATGACCATGATCAATGTTTTTA
CTITTTGTATAATGGGGTGGGGTGGAGTGGGGGCTATTGACAGTCACCCT
GAGGTCTTTAGAGGACCAGCTATTGTATCACCTTGGATACTTGAAGTTTA
ATGCTCAGTTGGGTCGGGTGGCATTTGACTTGAGGCTGGCATGTTCACC
AGAGCCTGGGGCCCTGTATCTGGGCAGCCTTTGAGGATTACTTATGATAT
TGAATGACAGTCTTAAGTGGCAACTCACGCCCAGCTCATGCCCTTTTTTG
CCTGGACATGTGCTATTTTTATTCACTTATATGTGATTCACTTGTCAGGG
TTAAACTTTCATACACGAATTGTATTGGGACAAAACGGCTGTTGGGGATT
ATATATCCCTT

>Sequence 543

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CATCTTGCCTGGATGAGCCAGGGGACACAGAAGAAGCCCACTATCTCA
TTTAATCTTTACAACTCTCTTGCAAGGTTCCCTGGTTGTGAAAATACATG
AGATGAATCATGAAGGCCACTATCATCCTCCTTCTGCTTGCACAAGTTTC
CTGGGCTGGACCGTTTCAACAGAGAGGCTTATTTGACTTTATGCTAGAAG
ATGAGGCTTCTGGGATAGGCCCAGAAGTTCCTGATGACCGCGACTTCGAG
CCCTCCCTATGCCCAGTGTGCCCCTTCCGCTGTCAATGCCATCTTTAAAT
GGTCCAATGTTCTGATTTGGGTCTGGACAAAGTGCCAAT

>Sequence 544

>Sequence 545

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AGGTGGAGGCTTAAACTTCAACATTTAAATTTTGCGGTTTGGCGGCCTTC
ACATGCGCGCGCCTTTTTCCCAGTTTCGGGGGAAAAACACTTGTTTCGGT
GGCACAGACTTGGCAATTTAAATTGGAAATACGGGGCCCAAAACGGCCTC
CCGGGGGAAGAAGGGCCGGGTTTTTTTGCCCGTAATTTGGGGGCCGGCTTC
TTTTCCGGCTTTTCCCTTCGGCGTCAACTTTGAACTTTCCGCTTGTCGCC
TTCGGGTTTCGGTTTACCGGCTTGCCGGGCCGAGGACCGGGTAATTTCAGG

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CTTCG

>Sequence 546

>Sequence 547

>Sequence 548

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GTTTCCCTGAGTTCTGTGACCTGCTCTGGCAAATTAATCAAACCCAAGAA
GGGGGTTGTGGGAACCCCAATTTATAGCTATTCAGTCAGAAAAAAACAGG
TTAGACAATCTGGGGCTTGCGACTGGCATTGGAAGTGGGGGACAGTTGTG
CGGGGCTCAGCCTTCAACCTGTGGGATCTGACGCTATCTCTGGGTAGATG
AAGTAGAATTGAACTGGGGGACACCCAGCTGGTGTCCACTGCAGAATGAA
TTGCTTGCTTGATGTCTAGGGAGGCCGCAGAATTATAGCAGGAGGTGAAA
AGCACTTCTTATTAGCAGTGGCAAGAGAAAATGAGAAGGAGCAAAAGCTG
AAACTCCTGATAAACCAATCAGATCTCATGAGGCTCATTAACTATAACAA
GAATAGCATGGGAAAGACTGGC

>Sequence 549

>Sequence 550

ACGTGGTTACCGCCGTGCGTGCGCGAGGACTACACGATGATCGGTGATTG TGCTCATGGGTACCCAGCTGCACCCATGAACTACGCCGAGAGACTGTTTT AGGCTGTGAGGGACTCAACCGTTATACTGAATGGAGAGCGGGACCACATA

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>Sequence 551

GAĞATGACCCGGGTGGCGGCCGAGGTACCCATCTCTGCCCATCACCGCTG
GAATITTGATGACCTATTGGAAAAGATCTGGGACTATCTGAAACTAGTGA
GAATTTACACCAAACCCAAAGGCCAGTTACCAGATTACACATCCCCAGTG
GTGCTTCCTTACTTCGAGCGGCCGCCCCGGCAGGGACTTCACACCAAACA
CTAGCTCAAGCACTGACGTTATTCTACAGGACTATGAACCTTCATATCCA
CATTTACAGTCCGGACAGATAAAGGAAAACAACCCAAATCCAGGAGGCAA
TATAAAAGGAAGAACAAAACACACATTCATACACTCACACTTAAAAAT
AGGGGAAGACCAACAGGGGAACTTTCGTTCTCTTCTGGATGTCTACTTAA
AAATCCCATGTGGTACCT

>Sequence 554

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TGAGAGATCCGGGTGGCGGCCGCCCGGGCAGGTACAAGACCATGACACGC CCAAAACACTTCCTGCAGATGTTGTCGTTGGAAAACTGTCGTCTTACAGA AGCCAGTTGCAAGGACCTTGCTGCTGTCTTGGTTGTCAGCAAGAAGCTGA CACACCTGTGCTTGGCCAAAAACCCCATTGGGGATACAGGGGTGAAGTTT CTGTGTGAGGGCTTGAGTTACCCTGATTGTAAACTGCAGACCTTGGTGTT ACAGCAATGCAGCATAACCAAGCTTGGCTGTAGATATCTCTCAGAGGCGC TCCAAGAAGCCTGCAGCCTCACAAACCTGGACTTGAGTATCAACCAGATA GCTCGTGGATTGTGGATTCTCTGTCAGGCATTAGAGAATCCAAACTGTAA CCTAAAACACCTACGGTTGAAGACCTATGAAACTAATTTGGAAATCAAAA ACTTTTGANGAAGTGAAAGAAAAGAATCCCAAGCTGACT

>Sequence 556

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ATATGTGTCTACTGTGGGGACAACTGGAGTGAAAACTTCGGTTGCTGGCA
GGTCCGTGGGAAAATCAGTGACCAGTTCATCAGATTCATCAGAATGGTGA
GACTCATCAGACTGGTGAGAATCATCAGTGTCATCTACA

>Sequence 558

>Sequence 559

TAGATGACTCCGGGTGGCGGCCGCCCGGGCAGGTACGCGGGGGGTGCCTG
GCTCCGTTTCCTGCTTTTTGGTTCTTACAGTAGTCGGCGTAGGCCTTAGGT
GGGTTCGTGCGCCTTCTACCTCGCTGTTTCGGTTTTCCTGGCTCCTCGGC
CCTTTTCTCCCCTGTTGCAGCTGGGAGCGGACGAAGCGCGAAGCTGGGAT
TTTTTACTGTCTCCTGAAGAATTTAACACAAACATGGATATCAGACCAAA
TCATACAATTTATATCAACAATATGAATGACAAAATTAAAAAGGAAGAAT
TGAAGAGATCCCTATATGCCCTGTTTTCTCAATTTGGTCATGTGGTGGAC
ATTGTGGCTTTAAAGACCCTTGAAGAAGAGGGGGGCAGGGCCTTTTGGCC
ATAATTTAAGGGAACGGGGCTATTCCACCAAAAGGCCTTGGAGGACAGGC
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>Sequence 560

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ATGACATTGATCTATAATTTTGTCTTTTATTTTANANANATATTTGCGAT
GGCTCCCCGGGTGGCGGGCGAGGTACCATGTGGGAAGCGCTGTGAAGAGT
TGTTGCCTTTCAAGATATACCCAAATTCCCAGTTCCAGCCCGTGTCATTA
AAACTCCGCTGGCGTGAAAGATGACGTCCTTAGCCCAGCAGCTGCAACGA
CTCGCCCTCCCTCAAAGGGATGCCAGCCTTTTATTTAGAGATGAAGTTGC
TTCTTTGTTATTTGACCCTAAGGAAGCGGCCACAATTGACAGGGACACCG
TCTTCGCCATTGGTGAGCCATCTTTTAACTTAGAAAAGCTCTTGGAAGCG
TTTGTTTTCTGGATGTTACTGTTTTTTTTTCCCCCCTGTTTTCTCTTCTG
TACCCGTGCTCTTCCTTAACAGTTTCTGCATGTTGATGTATATTTTCAAG
GGAAAGAGATCATTAACACCATGTGCTTGGTGCTTGAAATGTTTATTAAT
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>Sequence 562

>Sequence 563

>Sequence 564

>Sequence 565

NGGATTGGAGAATCCGCGGNGGCGGTTGGNNGCAATTACTAGACCTCNGA CCNCGGCACTAAGCANCGNCACCCTGAANAGANTGTTCATCCNNCCCTCC CCCNGNAGAAACCNCNGCGCCANGAGTTTCAAGNGGAGGAAGAAGCGACT GCGCAAGCNGAAGCGCAAAAGAAGAAGANGAGGCAGAGGNCCAAGNAAA CCGCNAGCNNGNNGCACCGNGGAGGCCTTTGTTTTTTTAGGTTTTGAANGC CAGACGCTCCTTATGAAAGTACCAAGAAGTGGGAAGCGGGGTGAGCTGCT GAAGATTTTTGGTATCGACAGGGATGCCATTGCACAAGCTGTGAGGGGCC TCATCACCAAGGCCTAGGGCGGGTATGAAGTGTGGGGCGGGGTCTATAC ATTCCTGAGATTCTGGGAAAGGGGCTCAAAGATGT

>Sequence 555 -

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GGATGCCATTAAGTATTTCAAGGAAAAAGTGAGCACACAGAATCTGCTAC
TCCTGCTGACTG

>Sequence 567

TGGATTGGGCCCTNCGCGGNGGCGGTTGANGGCNTTTCGNNGCCCCNCAC CANNNNAAGGNCGAGGGNNNCCCTGGANGANTGGTTANTCGGCCCCCCC CGGGCNCNGCAGGCCGNCANNANCGTTGANGCNCGCGCGGGCGCNGCCCC TGAAAACCCCGNACCNGCCCGGGCGGCTGCNCNAGAACNAGNGGANCCCC CGGGCGGCAGGAANNCGAGAGCAAGTTTTTCTTTTTTTGGTTTTCCCGAGG GGGGGCCCTTTTCAAAAAAAAATGTCCCCCCAGGGAGGGGGGAGGGCGCG CTTTTTTTTTACAACGGCACAGCCGGNCCCCGGGGGAAANNGGGAACCGC GCACAAANCCACAACAGACGAGCCGGGAGCACAAAGGGGAAAGCCCGG GGGGCCCAACGAGGGGAGCCCAACCCCCACCAAGGG

>Sequence 568

>Sequence 569

GCGCTTTGGAGCNACTCCCGCGGNNGGCGGCTCGAGNGACAATTACAACC
CCGNNNAANCCAAGGGNNNAGGGNANCAAGCTGCTGNGATNNACTAATAC
ACAAACCCCAGACAGCAGNAAGGNCAGAAGAACCTTGGAGAACAGCAGAA
GCAACACCGCAGAACNCNGAAGGCNGAGAACACAAGNCAAANACANNNAA
CNNAAAAACAACGCNGAGAGAACACNGGGAAAAATTTCTTTTTTTTAGATG
TCCACAAAAAAAGGACATGTAAAGGGGAAGGTCAAGTTGTTGAGACAGCTA
CTTTATTCTTGGGATGACTGNGGAGGTGGTGGAGATGAGCCTTGTTTGCC
AGATTTCCGTTCGTAGTTCACGAGTCGTTGACCCACAAGGTACCTGCCCG

>Sequence 570

>Sequence 571

>Sequence 572

GGCGTTTTGNGNCNACACCAGCGGNNNGGCGTTCGNTGAGNGATCNGNCG GCCGNGNNNCNCACCGCGGNCCNNNCCNTTACTGNGGGCTTTGAGGCNCC CGCCACGGAAAAGNNGGCCCCCGAGCCAGAGCTTTTGCAGCCCNNGNGAG GGCGNGGCCCGAGGCAANGGAAAGNGGANGNAAAACGAAGNACAGGAGC AGANNNGAAGAANNACAAAGNGAANNGGNGCTTTTCAGTTTTTTTAGAGAG TGACCACANAGCCTCTACTTCCTCTGATAAAAATGTTGGGAAAACACCTG AATTAAAGGAAGACTCATGCAACTTGTTTTCTGGCAATGAAAGCAGCAAA TTAGAAAATGAGTCCAAACTATTGTCATTAAACACTGATAAAACTTTATG TCA

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Table 2

>Sequence 573

- >Sequence 574
- >Sequence 575
- >Sequence 576

NGCGATTGGAGCTCCCCGCGGTGGCGGCCGAGGTACGCGGGGTAGGAGCC TCTCTCCCTACTGCTACACAAGACCCTGAGACTGACCTGCAGGACGA AACCATGAAGAGCCTGATCCTTCTTGCCATCC

>Sequence 577

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AGCTCGGCGAGCGAGAGGCGCGCGCGCGCTTGGAGAGCGACGGCGCCCC
CGCGTAAGCAGTGTAACAACGCAGAGTAACGCGGGAATGAAGAATCTTA
GGCGGGTGCACCCAGTTTCCACCATGATTAAGGGTCTTTACGGAATAAAG
GATGATGTCTTCCTTAGTGTTCCTTGCATTTTTGGGACAGAATGGAATCTC
AGACCTTGTGAAGGTGACTCTGACTTCTGAGGAAGAGGCCCGTTTGAAGA
AGAGTGCAGATACACTTTGGGGGATCCAAAAGGAGCTGCAATTTTAAAGT
CTTCTGATGTCATATCATTTCACTGTCTAGGCTACAACC

>Sequence 578

GCGATTGGAGCTCCACGCGGTGGCCCGCCCGGGCAGGTACCTCACAACGA GTTCAGTCAGTAGCAGAAGGATCTTCTCTCTTGTTCCTGATGATTTCAAG GTCCTCACAGTCCTGATAATCTGGTTCTTCCCGAAACTCCCAAATATCTA TGGAGAGCTGTTCTAGCTTTTGCACAGGGAACCAGTGGACAGAGGTATCA TTAAACATGTCCATGTATTGCGAAGTCTGAGGAAACTCAAGCTCCTCCAG TCCTTTTAAAATCTTTGCAATGTAGGGATAATTTTTCTGCAGAATCCTTG CCAACAACCTCTCCTCAAGTCCTTTGAAACTGTTCCCAATGATGACCATC TTAGAAAGGGCATCTACTGACCAGTTACTCCATAAAAGATTGTTGTACCT CGGCCGCTCTAGAN

>Sequence 579

>Sequence 580

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TCTGAGTGGCCTTTTCTGCACCCTCCCTTCTTTCTCTTTGAATGGAATT
AAACCCAATTTGGAAACAACATTGACCCAGTCAAAAGCTTCTAATGGTTT
CTTTTTCTTCCTCCAGTTTTAGTTTGCTTTTATTAAAAAAAGAAAATAGT
GCATGGCCATAGCTCCTTCAGTTCTCTTATTGCAGACTAACCATCAGGAT
GGTATCAAAGCACAAATACTTTGGAGGGGAATGCGTTGAACTGGGGCAAG
TACCTGCCCG

>Sequence 581

CACTCGGCACTCTCGGTTCTCTGCTATTTTAATTGTATTTTGTATAATAA

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Table 2

CAATACGTATTTTACTACATTCCTTTAATGTACATAGATATCATAATTTATTCATTAANTTATTATTGGTTTAGTAGTGAGCTC
>Sequence 582

GTTTTTAGAGATGAGCTCACCGCGGTGGCGGCCGAGGTACCAAATTGTAA
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ACCTATTTTGGATGAGGTAAAAGACATGTGCTCATCTCCAATTACAGTTT
CAAGCTGCTGTCGGCCAACCCTATCAGCGGGGAGGCCACAAAGCATAAGA
ATTCTTTTGGGATTACACTGACATCAATAATTTTTATCACTATCTTCCAT
TACACTATTGTGCACATTAAGCCAATTTTCTGATCACATACTTGTTG
TAACTGCTGCTGGGGGCATATCTAAGCTTTACGT

>Sequence 583

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CTCCNGGAACCGAAAAGGCTGGNGCGGGTTTCANCCAGGNCNCACTGANN
GNCGGACCACANGAGNCAAACTTAGGNCNAGCNCAGAGAAAGCCCGAGAC
AGCAGGGCAAAAGCGGCNNGCGCCCCGGNNGGAACANCGCCAGCCNCCTC
ANAANCCANNNCCAGACAAGCTTTCATTTTTTTTTCAAATCCGACATCTA
CTCCAACTACATGATACACTAAAGTGCTTGCTGTGTGGGCTTCCAGGGGA
GATGAAATGGTAAGTCGGGCTGCAGCATCTCTTTCAAAATATACACCAA
TTTCTGTTTCTCAATGGCACTAATCATAACGGCTCGCCCTTTGGGATCCA
CAGCTAAGAACTGGCCAGGAACGA

>Sequence 584

>Sequence 585

TAGTACCTGGGCCACCAAACACAGCTGGACTCAATATATGGGGAAGGTAA GTGTCCTCAGTTTTTGGAGAGAGATTACCCTCTTCCAAAAGAGTGCTTGA TTCTGGTAGTCCAAGCTGTCTCCGTCTGGTGGCACCCCAATTTCCCCTGC CTAGACCCACCTCC

>Sequence 586

>Sequence 587

>Sequence 588

GCGTTTGGAGCACCCGCGGNGGCGTTCGGCCGGGCTACTCAGCCANGAGG GAAACCGAAGAGCCAGANNGTTAAGNGCAGATTAAGACNAGANCGCCGAG

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Table 2

GNNCGGGACAAGAACCGNGAAGGGTTGATGGACAGGGAAGAGACCAACGA CTGGATCCTTCCCTCAGACTATGATCATGCAGAGGCAGAAGCCAGGCACC TGGTCTATGAATCAGACCAAATCAAGGTTTTTTTTGCTGTCCAAGGAGGAG ATCGCTGACAAGTATGACTTATTTGTTGGCAGCCAGGCCGCAGATTTTGG GGAGGCCTTAGTACCT

>Sequence 589

>Sequence 590

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>Sequence 591

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GCCAAGTCTGTCCTTTTGTAACAAAAAACCCAGCAGCTTTATCAAGCAGA
ATTCCACCTGTATTTCTTAACTTGCCAGAGCTGAGTCTCATGGCCACCCT
TAGCAGGAGTTGGGGAGGTATTTTTTAACAAGGCACATTATCATCTCCCCC
ACCCAAAGTGGAGCTATTGCTAATGAAAAAGATACAATGAGATGTTTATG
AAATTATCTGTAGCTATTAATGTCAGGTTTTTTGAAATTTACTGACCTGGA
AGAATACTCATAATGCAATGTCAAGTGAGAAGCAGGACAAAGAACATTTG
CAATACAGTT

>Sequence 592

>Sequence 593

>Sequence 594

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TTAAAGATGAAAAGGCTTTGTCGAGCGGCCGCCCGGGCAGGTACTTTNTT
TTTTTTTTTTTTTTTTTAAGGAGCTTTTATTGTTTTAGTAATCTTAAC
ATAACTTAAAATAAGAGAGGGGAAATGACATCTGGAGATCTAGGTATGTG
GCCCATTGCAATTGAGCACATTTCTTGGGTCTGTTTCTCTATCTCTAAGG
GCAGTCTCAAAACCCCAGCTCAAAATACGACACTAACATGATGAACATGC
ATGAGCTTTGAAAAGTGCTCTGTAGTCTTATGATGATCTAGAAGAGCACT
GTCCAATAGAACTTTCTGTGATGATGAAAAGATTCTACTTTTGACCTATT
CAATANGGTAACCACTTATCA

>Sequence 595

ACTITITACTCTATAGTACTCTTACTTGTTTATTATTACTAATCTTATTT TATATTAATTATATTTATGTAAATTTATAATACATATTTATAATTTTTAT TATATTTTTATTAGAGCGAGCTCACGGGTGGCGGCCGCCCGGGCAGGAC ATCGTCACCATAGTAAGAATGTGTTGGTCGACACAGACTAGAATGGTCTA ATAACTAGGTATAGGTTAATTCTTATGTGCACCCTTGACAATATGAGGAA ATGTAATACAAGCGATACACAATATTTGAAGTGCAATGGCTTATTAAAGA GTTAATCAAAGATAATTTCTTTTATAAAACCTAAAAATAGGTGAATTTTG TGAAAGCATCAATAAACTTTTACATGTTTATAGTGCTTACCCTCAAATGT TTAATTGATTGGTGTCCAAAGTAAACATTTGGGTGTGCATATCTCTAAAA GTTTAGTAAAAATTGGCCAATTATGCNCAAAAAATTTTTTAAAAATAGGGA CCTTACTTACCAATAAAAAAGAAATTATTTGAAACCTTCATTTTTTCTT TTACAAGGTGTCGTGGGGTAGGGAAAAGAATTATGGGTGTATTCCAATGG TGGTACAATTGGGAAAACAAGTTAAGCTTAATATTTTATGGAAGTTATTT TATTTGTTTAATGGAGGAAAAAAATGTGCAGTTTTTAAAACTCTTTGGGT AAAGAAGTCTCCAATTATAGTCTGCCCAAGGGAGTGGGTTTTAATGAGAA TATTAATTTTTTTATAAACGAGGTGTATCCTTCGGGCACGGATTTTAAG AAG

>Sequence 596

>Sequence 597

>Sequence 598

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>Sequence 599

TTTTTTTGCGGCCCCCCTCCGTCGGTAGAAAATAGAGGTTCTGACTCC
TCAGGAGCAAAAAACATAACCTGAAGAGGGAGGAGGAGTTCTGACTCC
ACCATTTCTTGGGGCACACTTGATTGAAAACTGAGACTTCTGAAGAGAAG
GCCAGAAGATACAAAGACAGACCATGCCAGTTGAATGCTGTCTTCCAAGA
ACAGAAGAAAATGATCCAGGCCCAGGAATCCATAACACTGGAGGATGTGG
CTGTGGACTTCACTTGGGAGGAGTGCAACTCCTGGGCGCTGCTCAGAAG
GACCTGTACCGGGACGTGATGTTGGAGAACTACAGCAACCTGGTGGCAGT
GGGGTATCAAGCCAGCAAACCGGATGCACTCTTCAAGTTGGAACAAGGGG
AACAACCGTGGACAATTGAAGATGGAATCCACAGTGGAGCCTGTTCAGAC
ATATGGGAAGGCCCTTCATGCCCCTGGAACGCTTGCCAAGGGAAAGCCTG
GGGGACAAAAGGAAACCATGTGATGGAC

>Sequence 600

>Sequence 601

>Sequence 602

GACCACATTCTATATATCATACGAATGAAATCGATTTTGTTCTACCGTAA
CATGTACCTCATACTGTATCTATAATTCTCACGTATCAATGATCTAATAC
CAGTGAAGACATCATGAATAGACAACCAAGACGAGGTGCACACCTTGGGA
CACCCTCATCTGCGTGGGCGGCCAAGATCGGAGCAGCGACGCTGCGGGCT
ACCCCCATGCCACCCATGACCTGTAGGGACCACCTCTAGATGCCTACTCG
ACTCAAGGACAACACCCATGTCTCCGCTCGATCTGGCCAAGCTGAACCA
GGTGGCAAGACAACAGTCTCACTTTGCCATGACGCACGGCGGGACCGGAT
TCGCCGGAATTGACTCCAGCTCTCCAGAGGTGAAAGGCTATTGGGCAAGT
TTTGGATGCATCTACTCAAACCACCCATGAACTCACCATTTTCCAAAAAAC
TTAATTGGCTGCATAAATCGGGCGCCAAGGCCGCCAACATTTAAAGAGAA
CCCGCCAGATGTTCCGGGGGCCCAGGATCAAAAAAGCCCAAACCCCAGGGG
AAGGGCTCCTCTGGAAGGCCGGGTACAAAAAACCTGGCTCTTGCTGGCAA
TATTAGATCTGGCCCAAGTATTCTAAATAAAGGCGGGCTTTTCCTTCTGA
AAAAGGCATGGGGGGCGACTAAG

>Sequence 603

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Tabl 2

>Sequence 604

>Sequence 605

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TTCAGGAAATCTGGCCAGATCACCTGAATCCAAATGTTCTATTAATTCAA
TACACGTTATCAAGTCAAATCCAAGCAAACGAGAGTCTCTCCCACAACG
GAGCCATGATACAATGTGATGGTCAAATTCAGATCCCGAGGTTTCAGAAA
ATCCCCCAGGAAAGGAGCTAACGAATCCCCTCTCCATCGTAATTTATCCT
CATTAATATCTACTCCAACAAGCAATTCAATGCATGGATTGACTTTTAGC
AGCCTTAAGAGTGAAGTATCACCACATCCCAGGTCTGCAACCTTCTTAGG
CTCATGTTGATCCACTAAATTTTTAACGAACTGGTACCTGCCCG

>Sequence 606

>Sequence 607

>Sequence 608

TGAGAGTGGTTGAGCTCACCGCGGTGGCGGCCGAGGTATGCGGGAGCTGA GAGAACAGACACAGACCTGTCGGAAGGTCCTCTGCAGGTCCCCCTTCCGC TCTGCCGATCGACTTCCGCCTCGGGCAGTCAACATACTGCCAAGGAAATC

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TGATGTGGAAAGGAAAATAGAAATAGTGCAGTTTGCTAGCCGGACACGCC
AACTCTTCGTTCGATTATTAGCTTTAGTGAAATGGGCTAATAATGCTGGC
AAAGTGGAAAAATGTGCGATGATTTCAAGCTTTTTAGATCAGCAAGCCAT
CCTGTTTGTGGACACTGCTGATCGCCTGGCCTCGTTAGCTAGAGATGCTC
TGGTCCATGCACGCCTGCCTAGTTTTGCCATCCCATATGCCATTGATGTA
CCTGCCCG

>Sequence 609

>Sequence.610

>Sequence 611

ATTCTTATACCCGCACATATTACGTTTCTCTATTACATTTTTCTATTTTT **AATTITACAAATTCATCTCGATATTTTTATTCTGTCATTTACAACTTTAG** ATTTTTTTTCCTTTTTAGTTCGACTCACGTGTGGCGGTCGAGGTACTT ATGAGAAATTGGCATGCCTTTGCTAATATTTACTGCAGAGTGTAATCCAT GTTTGATAGACATTATAGTAATGTTTGAGTAGGGTATTGTACTATATTCT TAGTGGTCCTATACGGTAATAATATCTAATACAGTAAATACCTGCCTTGC CTTTTTCCCTGGATAGTTCTGTAATATTACGAAATTGTTGTACTAACCTC CGAGCAATGTGATCCTCAATTTGGTGTGGACTTAGGCTTCGCCCTTTTCC ATGTGGGTGCAATAGAGCTAATTATTGGCTCAAGTTTCTGTAGGTATAGA GATTCTTTCTCTACCAAGTAGACATTATAGTCTCAGGGGGACGTTCTCTT CTCTCGTGTGGGGTAACAAGGTTCACTAGAGGCCACCTTATAATTTTTCC CTTCCCTGGCCTTCAAACCCTTGTGAAAAAGGCCTTTGTCTACCATTAAA TAGGTTAACCATGGCTAGAGGTTTCATTTTCTTCCCAAACAAGTATTCTT ATGACTTCTAAGTTTTAATAAACAACCTTCCTTCCCTTTTCAATATAAT GAAATGGTCGTAATAAGGAGGTGAATAAAATATTTCCCAACATTATAGTC CTTAAGCCAACCTTGTATAAACCTCAGTATTGGTTCTTAAGAAAGCAAAT TCTCTTGGAAGGCCCTAGGCAAGTAACCCAACAAAGGGAATGGGCCCCCC CTAAATTTCTTGGGTTCCTTGGAGCGAGGTCCTTGGCTATAGCCCCCG >Sequence 612

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Table 2

ATTTTTAAAAATGGTTGCCAACTTACA

>Sequence 613

GGAGAACTACTGTAGTCGCCCGNCGTATTTCGTGAGATCCCACCCCCAGG
AAGNCCACTTTGANGAGGCCATCAAAACGAACGGTTATACCCCNCCCACA
NNNCACNCNGAGGGGANGTTTTACAAGNNCACCCGGGNCCCCGCCTGGGG
AAAGGAAAGCTAACTCCACGTCTGTTCCAAAGGCCTCTGCTGGTATTTAC
TTTACGAGAGGCCCACCTTATCCAAAGAGCTATATGCCCTGGGGGGCCTT
GATGGGCTTCACACAGTACCTGCCCC

>Sequence 614

>Sequence 615

TAGAGGAGCTCACAGCGCAGCGCGGTGGCGGCCGCCCGGGCAGGTACTTT
NTTTTTTTTTTTTTTTTATTTTCATGTATTGGCCTTAATCAAACTAT
AAGCTGTGGAGTGGCCAATATACTCCATTGTGATTATACACTGATTTCCA
TCACCTGCCTTTGTACTATCAACTCTTATTAGATTAAAAGGAAATAGACT
GAAATTGGGAGNGAGGTCAGCGGCTGGCTGGATAAGATGTTGGGCTCAGA
AGAATGTATGTGAAAGACACCAAAGGCCTCTCCTGTATGGACACAAAATC
ATATAACCACTGTGTCTGAGCTGGGTTGTGGATAGTCTTATTTGGCAGAG
GGGGATAGCCATTATATTCTATGAACCTTGCCAGCTGTACCT
>Sequence 616

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GGGTATTTGGAGTTATATAAGGTTCCCAAAAAGGCATATTCCTTTCAAAA
TTTTCAAAATAAAGAATTTTTTTTTACTGGATTTTAAATGGGGGTGTGCCA
ACTCATTAAAGGATTTTATAATGGGTGGGGCCCCGGGCCCGGCTTCGAA
AAAAACTCTTTGGCTTCTTGGAAATGAATCCTGGGCTGGGGGGTCGGGTG
TGGAAGGGGTTTAGTTATTTAAAGGGGGGAAATGGG

>Sequence 618

CAGCGTGCAGCTCACCGCGGTGGCGGCCGAGGTACTGGGACAGTTGGGTG
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TGGGAGAAGAAGAATAAAATTGTTTATCCTCCACAACTGCCTGGAGAXCC
TGAGACCAGCAGAAATCTACCACTGTCGAAGACAAATAAAATATAGCAAA
GACAAGATGTGGTATTTGGCAAAATTGATACGAGGAATGTCTATTGACCA
GGCCTTGGCTCAGTTGGAATTCAATGACAAAAAAAGGGGCCAAAATAATTA
AAGAGGTTCTTTTAGAAGCACAAGATATGGCAGTGAGAGACCATAACGTG
GAATTCAGGTCCAATTTATATATATAGCTGAGTCCACCTCGGGACGAGGCCA
GTGCCTGAAACGCATCCGCTACCATGGCAGAGGTCGCTTTGGGATCATGG

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>Sequence 619

>Sequence 620

>Sequence 621

AGACGCCCGCGGTGGCGGCCGAGGTTAACGACGCCTGCCCATGACAGAGC CTAGGAAATCGCGATGACAGTTTACAGCAGGTAAAATCCGGTGGAGACCA GCAGCATCCCCGAGAAGCCGTGCGATTGTTTGGGCGTATGTAACTCGCTG GTACTCTTGCGCCAGGGGCGNGCCCGCATGCTAGNAAN

>Sequence 622

Page 185 (of 261 pages in Table 2)

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TGTTATGACTCACCGGGTGGCGGCCGAGGTACGCGGGGGAGCCGCCTGGA TACCGCAGCTAGGAATAATGGAATAGGACCGCGGTTCTATTTTGTTGGTT TTCGGAACTGAGGCCATGATTAAGAGGGA

>Sequence 625

TTTAAGGCGTTGAGCTCCACCGGGTGGCGCCGCCCGNCAGGTACAAACT GATCTTCATGAATGTGTGGTCCACTGCTTTTCTGTTTCTGTCACAGTAGC TATAAACAGCTGTTTAAGGATATCCTTATCTAAATTTCTGCCAATGAGGA CCAATCGATTTGTTCTCTCAGTGTCATCCTTCCAGCTCACTGAGTCTCTC ACATAGAGCTCATCCCGCGTACCT

>Sequence 626

CCGGGCAGGTACGCGGNGATGAGTCCTAGGAGGCGCTGGCTCTTTGGCGG CTCGGAGGAGCGGCTGCTGCTGCTGCTGCTGCTGGTGGCCCCTTTGC AGATGTA

>Sequence 627

>Sequence 628

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>Sequence 629

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TGTTGCCATAACTGTTCGAGATAAAATCTATGATAAAGTTCTGGGTAACA
CGTGCCATCAGTGTCGACAAAAGACCATCGACACCAAGACAGTGTGTCGA
ACAGTGCTGTGGTGCGAGGACAGTTCTGTGGACCATGCCTGCGGAACC
GCTATGGGGAGGATGTCAGATCGCCATTGCTGGACCCGGATTGGTGTGT
CCCCCCTGTCGTGGGATCTGCAATTGCAGCTACTGTCGGAAG

>Sequence 630

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>Sequence 631

AGGTCATCAGCTTGCCTCAAGTCTGGAAAGAAATTGGCTTGGGCTCATCA
AGTTGAAGGGACCACCAAAAGAGCTAAGATTGCTTGTAATACTCATGTGG
CCCCTAGGATGCACCGACTGGTAGTGATGAGCCAGGTTTACAAGCAGACA
CTGGCTAAGAGCTCAGACACTCTGGCGGGGGGCACATGTAAAGATTCATCG
TTGCAACGAATCTTTTATATATCTGCTCTCTCCCTTACGATCTGTGACAA
TTGAGAAGTGCAGGAATAGCATCTTTGTCTTGGGCCCTGTAGGGACTACA
CTTCACCTCCACAGTTGTGACAATGTTAAAGTCATTGCTGTTTGCCATCG
TTTGTCCATCTCTTCTACAACAGGTTGCATCTTTA

>Sequence 632

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GGAGGGGTTCCGATATTTGGTGGTCTTACACCGAGGGCAACCCTGATCGT
CCATGGCGGTTTCCCTCCTACAGACTCTCGCAGGCGCCTGTTTCAGCCAG
AGCCACCTACAAGCCCCCTCCCCGCGTACCACCACACTGTCCCAAATTAC
CTCTTCATTACCCAAATCAAAGAATCTTTCTGTTTTCCCAATCCTCAAAA
GGAATGAAGAAAAACCAAAGAGCAAACTCAAAAGATGATTTTTACCATAA
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>Sequence 633

GCCCATTGCTGTTTGTTTGCTTGAAGACCAAGACGGAGTTGGGCCTCTTGA

>Sequence 634

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CCACAGCATTATAATATTCAAAATATGGAAGATTGACAGTCTGAGGATTT
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TATGACAATCTACAGGACAAAAAGACAACATGTCAGGAAATATTGTTCAT
ACAACAGCGTTAATGGAAAACAGTAAAACACCTTTTAGCAGTGTGCATGT
TAAGTCTTTTAGTAAGATTATCTGTAATGAGGTTTGAAAGTAAATCACTT
AGTAGACAAAGTAAACCACCACAGAACCAGGAATAGCACCCATCACTGCT
GCTTTGTCACTCCAGAAAGCTGAAAGTCAACCGAACAATGAAAAAAAGTC
AAAGAAGCATTTCCCTTTGAATTCAGTCCTAAAAAATATGAATGCCTTATA
ATTAATTTCAAAAATAAGTATCTTACAAGTGTTTCATGAAACATTGTTTTC
CTAAAAGGCAAATTCAACATTATGAAAAATATATTTTTGCCCGGTAGTTA

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CTGAGAAATGTCAATCCTTTCAACTCTAGAGAATGATGCNATGAAGTCGG CTTTGAGCCCCACTGCCGCTTGCGCGTGTTTNCCATTTGCCTTCTGCATT CGCACCTTAATGCAGATGTACCTTGCCG

>Sequence 636

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ATTTATGTTAATATCATTATAAGTCGACGATGACTCACGCGGTGGCGGCC
GAGGTACTAAAGGGCAAGGTTCACCACTACAAAAAGGAAGTTGTCTAAAA
GCAAGAATTCAATTAACGCTGGGTAAGAAAAGTCAAAAACACTAATGAGTT
GTCCATGAAGCCAACTGCTAAGAACGCGCTCAACTATACGCGACATGAAG
ACACTACGCACGAAGCCTTACTTGGCGAGTCTGAATTTCTATTAACTAAG
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GATAGTACCTGCCCG

>Sequence 637

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CAGTTTGGAACAACAGCAGAGATATATGCCTATCGAGAAGAACAGGATTT
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TCCTTGAGCTAAGAACACAGTCAGATGGAATCCAGCAAGCTAAAGTGCAA
ATTCTTCCCGAATGTGTTGCCTTCAAACCAGTCTCAAGAGAAG
ACCAATAAAGTGCCAGATATTTCCTTCAAAACCTGTCTCAAGAGAAG
ACCAATGTTCATATAAATGGTGGCAGAAATACCAGAAGAGAAAGTTTCAT
TGTGCAAATCTAACTTCATGGCCTCGCTGGCTGTATTCCTTATATGATGC
TGAGACCTTAATGGACAGAATCAAGAACAGCTACGTGAATGGGATGAAA
ATCTAAAAGATGATTCTCTTCCTTCAAATCCAATAGATTTTTCTACAGAG
TAGCTGCTTGTCTTCTATTGATGATGTATTGAGAATTCAGCTCCTTT

>Sequence 639

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ATCCCATCAGATTTGTAGATCTTAACCAGGCAGTCACCGAGGCCTCGGAA
GTCCCTTTCAGCTCCAGCTTTACCCACATCAGCTGCTAGACGGGTACCT
>Sequence 640

TGGAGACGATCGAGCTCACCGCGGTGGCGGCCGCCGGCAGGACGCGGGGGCTGTCTCACCGGTGAGACCTGGAAGCGGGCGAGTCTCGTGCTGTGTCGGACCTGCAGTCCCTGCCTTCCGCCACCATGGAGTACCT

>Sequence 641

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TTCAGACAACACATGACTAAGACAGAATGAGACCACTCTAGTTGCCTCAT
GGGAAACTCGGGAAAAGACTGCAAAAACAACATTGTTTCTCCCTTTTGGAA
TTCTGGAGTTATAAGGCAGAGGTCCCCCATCTTCCCGAACTGGCCTATTC
CGCTAGAAGCAAGATGGCTGAACTCAATACTCATGTGAATGTCAAGGAAA
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GTCCTGGTGCTCCAACAGTTTGATTTTAATGTGGATAAAGCCGTGCAAGC
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>Sequence 642

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>Sequence 643

>Sequence 644

TTAGCGTGAGCTCACCGGGTGGCCGGCCGCCCGGGCAGGTACTTCAGGGA GGCCTATATATTGGCACCCAAGGAATGCCAGGACTGCCACCTGCTGCTCC AGCGTTAGCCTCACTCGTGTGCTTACTCACTTTGACTGCCTTTTTTGTCTA TTTCTGGGAGGTTGGTAGAATGAAAGGGATGCTCCAAGGCAAGCAGATGG CCTGTCCACCTCCTATATATTGACAGTGCCAATGAGTGTAGAGTCTTGCT ACAAGAAACAAAGTCATGAGAAATGCCAGGCTTCCTGTTACACCCAAAGA CTGCTGGCCCTCCTACTCTATCC

>Sequence 646

>Sequence 647

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>Sequence 648

>Sequence 649

>Sequence 650

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GGTAAGAAACAGTTGATTAACACCCTGTGTTCTGGCAGGTGGGATCAGCA
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AAGAGGTGGAATTTGTGGTGGAAAAAGCATTGAGCATGTTCTCCAAGATG
AATCTTCAAGAAATACCACCTTTGGTCTATCAGCTTCTGGTTCTCTCCTC
CAAGGGAAGCAGAAAGAGTGTTTTTGGAAGGAATCATAGCCTTCTTCAGTG
CACTAGATAAGCAGCACAATGAGGAACAGAGTGGTGACGAGCTATTGGAT
GTTGTCACTGTGCCATCAGGTGAACTTCGTCATGTGGAAGGCACCATTAT
TCTACACATTGTGTTTTGCCATCAAATTGGACTATGAACTAGGCAGAGAAC
TCGTGAAACACTTAAAGGTAGGACAGCAAGGAGATTCCAATAATAACTTA
AGTCCCTTCAGCATTGCTCTTCTTCTGTCTGTAACAAGAN

>Sequence 651

GAGAATGAGCTCCCCGCGGTGGCGCCGAGGTACTGCGTTATGCAGAGGT
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CAATTGCTGGACCAGGTCAACATCTTCGTTTTGAACAGCTTTAATCAGCA
AGTGATTGTCTTCCACTGCAGCCCTTCTACCGCTGGAGGACGTGGGTCCC
TCCTGGGGGTTGTTATGATCCCTGCTCTCCATGACGGTAAATGCCACCTG
CTACCACTTTTAGCCTTTTCCTTGAGAAAATGCAAATTTATCTCCTAGCA
CTTAATCAAAGAAGCTTTGAGTGTAAATTGGGATTCTCTGGCAACAGAGC
AGCAGTATGAAGAAGGAACAATGTTCTCAGTCTTCTGACATTCCACCTGC
TCAACTCAGACGTCTCAATTATTCCTTTTGGCAGCCGCAAAGCCTGGAAGA
CTGCTTGCAGCCCGAGCAGTTTCCTCCTGCTGCCTCCCGCGTACCAGTGAG

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Table 2

GAAGGAAAGAGCATTCTCCTTTAGGGCAGCAATCACAAN

GGAGATGGGTTGAGCTCCCCGCGGTGGCGGCCCCCGGGCAGGTACGCGG GGAGGCCAGGTCTCAGGGCTCCTGGAGCTGCAGGCGGCGGGAGGGGCTA CAAATGCTTGACTCAGTGATGCAGAACCTTTCAGAGTTAGCTGGAAGCCA CAGCCCTGCCTCTTGATGCAGCCTGGATCCAGCCGGTGTGAAGAGGAGAC CCCTTCCCTCTTGTGGGGTTTGGATCCTGTGTTTCTAGCCT >Sequence 653

TTTTGCCGCCTGACTCCCGCGGTGGCGGCCGCCCGGGCAGGTACCTGTG **AACTGAGGAATTATAGATAAACCTTAGGTCAAATCATTTCGCAATTGCAT** TGGTGGTATTGAAAAATGATGAGATTTCTCTGACAGAGAGCTTTGTCCTA GTTTTTGTTCTTCATAGGTCAAAACTGGCAATATTCTCTTGTCTGCAAGA TAAAGTGTTTGTGCTTCTATCACCATATGCATGAACATGTAAGAATCAGA TACAATTTCTGCTTCATCAGTTTCACATGTTCATGTTGTCACTGAAAAAA TGCATCTACTGTTTATAGCTCCCAAGGAGACCCCAAATCCTTTTTTCTT TTGAGATGGAGTCTTGCTCTTGTTGCCCAGGCTGGAGAGCAGTAGCGCGA TCTCAGCTCACTGCAACCCCCACCTCCTGGGTTCAAGTGATTCTCCTGCC TCAGCCTCCCAGTAGCTGGGATTTACAGGTGCCCGCTACCATGCCGGGT **AAATHTGGTHTAGGAAAAACGGGTHTTCCCTHTTGGCCCGCGGTHTT**

GTGTGGTCGAGCTCACCGGGGGCGGCGAGGTACCTGTTACCACTTTAAAA GTAAGTTCTCCATCCCATAAAGCCATTTAAATTCATTAGAAAAATGTCCT TACCTCTTAAAATGTGAATTCATCTGTTAAGCTAGGGGTGACACACGTCA TTGTGCTATATGTATGTGACTTCCCTCCCCTGCCAGAATACTCCTTGGT CAATTGTAGGTATTCTTTTTGGTTTAATTTTTTGCCAATGTAATTAAAAAA TGGTATGTCATTTTTAAAATTTGTATTTCTTTCATTACAAATAAGATTGT TATGTCAGTATTGTTATTGGCTTTTCGTATTCCTCTTAACGTGAACCGTC TGTTCATTGTTTTTACCTGTTTTCGTTTTAGCAAGTAGTACCTGCCCG >Sequence 655

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>Sequence 656

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>Sequence 657

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TTACTCTTAAGCCTCGAA

>Sequence 658

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GTACCTNGTGGGCNTTAGGTCAATGTTGTTATACACTTTCACAAAAGATT
GTATCTTTGATCTCTTGGCGATCTTCTTCTTGCCCATGGCAGCTGTCACT
TTGCGGGGGTAGCGGTCAATTCCAGCCACCAGAGCATGGCTGTAGGGGCG
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>Sequence 659

>Sequence 660

>Sequence 661

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GTTTGCTGAGGAGCAGCTGCTAAAGCATGGATGGACTCAAGGCAAAGGCC
T

>Sequence 662

>Sequence 663

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>Sequence 664

Page 192 (of 261 pages in Table 2)

GATCCTGTTAGTTTTGGGGACGAACACTCTTAACCTGTGCACACAAACTT GTGATCTAGGAAATTTGGAAAAGAATTCCAGGGGAGATCTACTTTTTTCT AAAGATCAAAGATTATTTTGAGTGCCCTT

>Sequence 665

>Sequence 666

>Sequence 667

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TGGGGCTGAAGCCAGCGCTGACGGAT

>Sequence 668

>Sequence 669

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>Sequence 672

>Sequence 673

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>Sequence 674

>Sequence 675

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>Sequence 676

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>Sequence 677

>Sequence 678

Page 194 (of 261 pages in Table 2) 416

Table 2

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>Sequence 680

>Sequence 681

>Sequence 682
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ATGTTGTATTCGGCTGGGTCGAGGGTCTCAGGCAGAGTGCGCAGGCTCGA
CGGCTTATACTTTGGGAACGACA

>Sequence 683

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>Sequence 684

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>Sequence 685

>Sequence 686

>Sequence 687

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GGAAAGAACAGACCCGGAATGCCAGGGCCGAGGTGTTGCGCCAGGCTAAA
GCCAATTTTGAAAAAGAAGAAAGGCGTAAAGAACTTAAGCGACTTCGGGG
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>Sequence 689

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>Sequence 690

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>Sequence 691

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TTACTGTAATTTACACATCCAAATGCAAACTGGAGCTCTGATTGAATTCT
ACCCTGGGGAGAACTTGATGCTAACCCACAGGTACCTGCCCG

>Sequence 692

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TAGATAAGGTAGTAGATTCCATGGATGCATTAAAAGGTTGTCCAGGAC
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>Sequence 693

>Sequence 694

>Sequence 695

>Sequence 696

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>Sequence 697

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TTTATGAATTATTTATTTTCTTTCTCAGAAAAGGATGCGCCTCCACTTAG CAAGGCTGGGCAGGATGTGGTTCTGCATCTGCCCACAGACGGGGTGGTTC and the second s **TAGA**

>Sequence 703

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>Sequence 704

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>Sequence 705

GTGACTGGCTCACCGCGGTGGCGGCCGAGGTCCGACGCAGCAGGC

>Sequence 1082

>Sequence 1083

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>Sequence 1084

>Sequence 1085

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>Sequence 1090

>Sequence 1091

GGTACCTTTGCAGTTTTCTAAGGGCTCTTAGTGCTTTTAACTAGAAAGGG

Page 200 (of 261 pages in Table 2)

1 (4) 1 1 1

422 1 apre 2

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>Sequence 1092

>Sequence 1093

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GTCGAGCCACCAACAAGAACAATTTCATCAACCCGCGTACATGCTAAGAC
TTCACCAGTCAAAGCGAACTACTATACTCAATTGATCCAATAACTTGACC
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>Sequence 1094

>Sequence 1095

>Sequence 1096

>Sequence 1097

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CGCCCATCTTTATCACCAGAATGAGGAACTCCTGGAAGTTAACTGCACCA
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>Sequence 1098

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>Sequence 1100

>Sequence 1101

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>Sequence 1102

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>Sequence 1103

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>Sequence 1104

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>Sequence 1107

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CTAGCCACTTGGGAGGCCAAGGCAGGAGAATCGCTTGAACCTGGGAGGCG
GAGGTTGCAGTGAGCCAAGATTGCAGCATTGCACTCCAGCCTGGGCAACA

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>Sequence 1108

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>Sequence 1109

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ATTCCACCAGATACCCTAAATCATCTCTCTCAAGTTCGAAGTTCCACAGA
TCTCTAGAGCAGGGGCAGAATGCTCCCAGTCTCTTTGCTAAAGCATAGCA
AAAATCACCTTTGCTGCTCCAGTTCCCAATAAGTTCCTCATCTCTGTTGG
AGACCACCTCAACCTGGACTTCATTGTCCATATCAAGATCGGCATTTTGG
TCAAAGCCATTCAGCAAGTCTCTAGGAAGTTGCAAACTTTCCCACATTTT
CCTGTCTTCTTCTGCACCCTCCAAACTATTTCAACCTCTCCCTGTTACCT
AGTTCCAAAGTTACTCCCACATTNTCAGGTATGTTTACAGCAGCAACCCG

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CTCTACCGGT >Sequence 1111

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CCGCCGCTCGAAAGCCCTATACTTAGCGTTTTTAACTTATATNTCTGTGC
TTNNNNNNCTNNNGGGNAAGTGGGGGGAATGAGGAGTGGGGGGGAGTGC
TACGCGCATGTGTTCTCAATTCCCCTTACGGCCCCGGCAGACCTTGGC
TTGACTGTGGTCTANAGCACAAGAATATGCTAGGCTGCACTCTGCTAATC
AGATGTGTGAATGGTCCTGTGGNGTGTATTGAATGGGAAGCTTTTGCCCG
GNGAACCAAAGCTCTCATGGATGATGTGGTGAAAGCCACTTCTAGGGGCT
GATCACCATCATAGGTGGTGGAGACACTGCCA

>Sequence 1113

>Sequence 1114

>Sequence 1115

TGTACAGAAGGGTTTCACCATGTTCACCACACTGGTCTCAAACTCCTGGTCTCAAGTGATCCATCTGCTCAGCCTCCCAAAGCACTAGGATTACAGACTTGAGCCACCGCACCCTGTCCCATCACTTTATATTTTCAAGAAGGTGGTGAGGTGTGTTGGTGCCTGNGGTCTCTAGCTGAAGAAAAGGGAAATTTTTCTATCTCTGGTAATGTCTTTA

>Sequence 1116

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TGGATTGCAAGTGTAAGGAAGAAAGTGAAAATGAAAGAGAAAGTGGAACA
AATATTGGCAACAGAGCCCCCAGAGGACAGTTGTCCCTTTTCCAACAAGT
TAAGTGGAAAATGCTGTTGCCATGGGAGT

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TGTACTTTTTTTTTTTTTTTTTTTTTTTTAAAGAAAAAGTTGGCCCAG CCCCAGGGAATAAATTTTGACTGCTCTAAACAACCACAGACCAAGGGCCA AATCTGGCCCTCTGACTGTATAAATTAAGTTTTACTGGAATAAAACCAGG TCCATTGATTTATCCATTGTCTACATACGCTTTTAGGCTACGATGGCACC ACTGTGTCACTACAAAAGAGGTTATCTAGACAAAAAGCCTAAAATATTAC CGTTTGCCTCTTTATGGAAAAAGTTTGCCATTCCCTAGTCTAAGGTTTAG ATTCTGAGCTTATCATGTTATCCTACCCCCCCCGCGT

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TATTTAGTAGAGACGGGGTTTCACCGTGGTAGCCAGGATGGTCTTGATCT CCTGACCTCGTGATCCACCCACCTTGGCCTCCCAAAGTGCTGGGATTACA GGCGTGAGCCACCGTGCCGGGCTGAAAAATAACCCTTTAGATATCTACAG CTTTAAACTGTGCAGTCATGAAAAGCAGACATTAGAAGTCATTGGCAT TTAATAAATTGCAGTAAAATTATACAGTAAATACATTACAATCATTAATA ATAGGCTTTAATGAGAAGAATTTAATAAATAATCATTAAAAAGACAGCAG **AATTTTATTCTGTTCTCAATATGTTGCTGCTCTTCTTATCAAATACTATA** ATAAAACTATATGACTATTATATAGATTTCAGGAGCTAAAAAAAGCCTTA TATTTTCAAATTAAAGAACAATATTAATTTTGCAAAATACAATGAGCATT ACTGAAGTATAAAGGTAATATTTTGGATTAAAATATATGGTCATTTAGAT AGCTTAAAAATACCACCCCAAAATTTAATAAATATGTAGCACTTCAAGAA GAATTTGAAATAACTGCTGGCATTCTTTTGGAAAGGGACCTTTAGGGAGT **TCCTTATCCGACACGGAT**

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>Sequence 1123

>Sequence 1124

>Sequence 1125

>Sequence 1126

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>Sequence 1128

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GGCCACAAGAGAGAGAGAAAAACTGCTGTATAGGAAAGAGAAATA
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>Sequence 1129

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>Sequence 1130

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CCAATCCTCAAAAGACCTCTCAATTAGAATTCTTAAATGACAATGTTTTC

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>Sequence 1132

>Sequence 1133

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CACTCCATTGCACTCCAGCCTGNGTAACAGAGTGAGACCCTGTCTCGCCA
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CCTGAATGCATCTCTTTGTTACAAAAACCATTAAAGGAGGTAGGGGGGAAC
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CCCGTCA

>Sequence 1134

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Page 209 (of 261 pages in Table 2)

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>Sequence 1137

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>Sequence 1138

>Sequence 1139

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AATAAAAAGATTACCATCACTTACTATGAACCACCATTCCATGAATCCAT
GTAGCTGAACACTCCTAATGAAAAGTTTAATTATCCTTCAACCTGTAGTT
GAAGAACTCAGTTCATGTTCATTGACAGATTTCCATTACAGACCCACTAT

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ATTGATGTTACTTTCTTTGACACTATATTTATATAGATATATAAAATT
GAAAACTTAATGCTGTTTAGAAGGCTATTAATATAAACTATTAATTTCTGA
AAGCTTTGAGTTTCTGAAAAGGCTTTTAAGATCAAAATTTCTGAAACACT
CCACACATTCTTCCTCACCCACATTTAATTATAAATCAATGTTATACTGA
TAAAAGGTTCTATACACACACTTTAGAGATATATGTGTGCGTGGGTGTC
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>Sequence 1140

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>Sequence-1141-

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>Sequence 1143

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ACGAAGCTACGGGTACACAGAGCTTGGCGACGATAATCAATGGGACAATA
GACTGGTTGACCTTGTGGTGAAAATTGGTTAATCTCGCTTCACGAATTGC
CACAACANACAATACTGACGCTCGTGAAAGGCATAAAAGATGATAAAAGC
TCTGGGGGTCGCGCTTAAGTGAAGATGAGCTGTAACCTCAACAATTAANT

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GTGGGGTATGCTGCCTACACTGTGCGCCNGTCTTTTCACAGATGCNGAGG
AAGAACCTGTGGCTGGTGCCCAAGACTGGACATATAAAATGAAAATCTCG
GCTCACACATCCTCGCGGAGGAAGAAGGGCGTGTATTTAGGCGATAATAT
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TTGTGACATCGAGGACGATTTCCGCCTTGGCGGCTGAAGCCGGNTAATCA
TTCTTAACGATCAAGACGCCGGGTTAAATACTGGGTTATTCTCCACAGAG
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GAGTGCCTGCCAACAATGGCTCATGAACCCGATGAAAANGGGGCGCGTGT
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>Sequence 1144

>Sequence 1145

>Sequence 1146

>Sequence 1147

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Page 212 (of 261 pages in Table 2)

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>Sequence 1150

>Sequence 1151

>Sequence 1152

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TTTAATGACTGCATTTTTGGAGGTGGTCCCAGGAGAACAGATGTTGCCTTA
TAATGGTGTTTTTCCATTTTTATCTTTGATTGGGCAAGGGGGTTGGAAGT
ATTATTTAGTCATTATATGGATTCCTCTAAAAATTGTTCAATAGAATATA
TATTCATTTATTCACTTACTTATTGTTTATTTATTGCCTAGAGTATACCC

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AACACTGAGGATACAATAATGATCAAGACAGGTCTAATTTCTGTCCCATA GAGCCTTAATTTGAATTAGAAAGAATTTTTTTATTAAGCCGTGGAAAAAA AGAATCATAATATAAGTTCCTTTGCCCTGACCACGCTAAGG

>Sequence 1153

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>Sequence 1154

AACAGGCTCCTCTAGAGGGATATGAAGCCCCGCGT

>Sequence 1156

>Sequence 1157

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Table 2

>Sequence 1158

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>Sequence 1159

>Sequence 1160

>Sequence 1161

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>Sequence 1162

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GTGGGCAAAGGATGGCCCAGGAGAAAGGCAGGCCCAGATTCCAAATCTGG
CTTGACCGTCTAAGAGGCTGAGTCTTAACCTCTCTGAGCCTTTGCTGTTT
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CCGCTCAAAGGG

>Sequence 1163

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>Sequence 1164

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>Sequence 1165

>Sequence 1166

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Page 215 (of 261 pages in Table 2)

>Sequence 1167

GGTACTTTTCTGTCTTCTAATTTTTAAAATTATTAATGTCTTCTATTTTT CTAAGGCTGATTITTTCTAATGTCTGATTTTTCCTTTTTTTCACATCTTG ACATAAGTAGAGTTCATTTATTTTCATTTATTCTTGTATAATAAAATTAC TTAAGGTTAGGAATAATTAAGTTTTGCTCCCATGTTTTTATGTGTAACAA TCTCAATGTTGTATGTCATCTACTTCAAAATTTCAAGCTTCCCCTTTAAA ATACTGTTTAAAAAACTTTATGAAACCAGTATTTCTCTCAACCTTTGTGT AATACCTGGTTTTACTTTAATGTGGTCAAATAATTTAACCTGTACTGCAT CGGCAGTGCCTTCGGACTGTCTATTTGACCTGCAGTCCAACCTATGGCCT GGAACTCTTTCTCATTCTCTTTGTTTTGTGGCCACTTTCACAATGTAGA AGGAAAAAACCAAATGACCCCACTGTGATGTGAATGGCACCCAAATCAGA TAAGTTTCCCTGTAGGTTAACCTGCAGCCCTGCGTTGCCACTTGGATTAA CTCTGAATTATTTATTCCAAAAGTGCCAAAAATTTGAAATCTTGCTAGTG AAAAACTTGCTCTACTTTTTTGAAATGATCAAAAACCCCTAATATTTCAT ACTTTATACTTCTGTAAAAATAGATTTTCCATTCACAAACTGTCAGAAAC TTAAAAATACCTGTCCGG

>Sequence 1168

>Sequence 1169

Page 216 (of 261 pages in Table 2)

>Sequence 1171

GGTACCAACCCTATTTTACAGATGGGAAAACTGAGGCTCAGAGAGGTTAA ATCACTTACACAAAGCCACACAATTTTGAGTGGCAGAGCTGGAATGTGAA TCCAGGCAGTCTGACCCTGCAGCTTATGTGCTTAACGATACTGCCTCTCA TGTGGGCAAAGGATGGCCCACGAGAAAGGCAGGCCCAGATTCCAAATCTG GCTTGACCGTCTAAGAGGCTGAGACTTAACCTCTCTGAGCCTTAGCTGTT TCATCTAGAAAGAGGACCTCCTGACAGCTGCCTACTATGGTTGTTATGAG GATAT

>Sequence 1173

ACGAAGACAGCATCCTTCAATCCCGCCAGCTCATGTGCATCTGAGGGTGG GGCTCTGTCTTCATGCTAGAAACCAAACTGCTCTCACAGCTTCCTGCTAA ATCACCACGGCTAACGGATAAGCAGAGACGGACTACCCGCGTACC >Sequence 1174

GGTACAGATTGCATAATAATTTTTAGATAAATGTCAGGAACAGAATCACA TTCTTAAAAGGCGAATTTCTATAAACGTGTGTATATGTTGAACAGATGAG CAGCTCTGCAAAGATGTGTATAACTGCATTTGAAAAAGACAGTGAAAATT TTGGGTTACTGTAGATGTCCCACAGTCTGGCTTGGAATTTAGTTCTGTGA CTAAAGGAGGCTTACAGTTGCTCCAATTTTGGTTCTGTGGGGTACCTGCC CGGGCAGCCGCTCAAGGG

>Sequence 1175

>Sequence 1176

ACCGCGGCCGTTAAACATGTGTCACTGGGCAGGCGGTGCCTCTAATACTG GTGATGCTAGAGGTGATGTTTTTGGTAAACAGGCGGGGTAAGATTTGCCG AGTTCCCCGCGTACCAATGACTGGTTCCATGATCCCCTAAGAGAACACAA CTTAGGAATGTGGATTCTAATGATAGCTTTATACTGCTTAGGCAAATTTA CTTCTGAGCCTTATGTGCCTTCAGTGGTGCAAGCAAATTTCCTTTACACT TTAGAGAGGTTGATTAACGAGTACC

>Sequence 1177

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TTAAAATGAAAAGTTAAAAAGTTTAAAACATAACAGAATAGAACATAACC
TATTAAATAAATCTGAGTCCAGGCATGACACAGTGGTTCATGCCTGTAAT
TCCAGGGAGGGACTGGGAGGCCGAAGTGGCAAATCACTTGAGGTCAGGA
G

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>Sequence 1178

>Sequence 1179

>Sequence 1180

>Sequence 1181

>Sequence 1182

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AAGGCCCTAGAGCCCCTGGCGAACCACTGGTGTAAATCCAAGAGTCCAAA
AGCTGAAGAACTTGGAGTCCAATGTTTGAGGGCAGGAAGCACCCAGCACG
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CGCGTACCTGCCCGGGCGGC

>Sequence 1183

ACTTTTCTTTTTGTGTATTACTTTTCACTTAGCATAATGTCCTCCAGCTT CATCCATAGCAGCTTCATCCATAACTTCTGGGTGTAGCCATGGCAAGGGT AAACTGATATGGCACACTGGTGGGCATGTCTTCTGGAGAGGTGCTTCCAA CTCTTCCCTGTTTTAGCTAGTCCTCAATTTGTCTGATGTCTGAACCCCAC TGCCAGAGTTGAGTCTTGCCTGCTGAGTCATGTCCAGACTCCTCAG AAGTATGAAGCATAACTGGTGTTACAAACACCATCTTCAGAACAGTGATT AACCTTACGCT

>Sequence 1184

>Sequence 1185

ACTCCTGTATTTGTTCTTATGAAATGACTATCTGCCTTCTCGTATCTAGT

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AAGATTGGCTGGCTCAACTTTCTTCTGTCAAATTATATGGTTATTTTTTA
TATTACCACATCAGCATTATATTAAAAGTGTTTTTTAATATGTTGAATGTAT
TTTGCCAACTACTAGTATAGACTCAAATTTGCTATTTAATTTTTAAAATA
CAATTTATTTTGTAAATCCTTTAAAAAAATATTTGGTTAGTTTTGGATTAG
AAATGATTTATGTTAGCCATGTGTTGAAGATGAAATTGGCATCAGTGTAG
ACGGTGCTGATTG

>Sequence 1186

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>Sequence 1187

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CACAGGTCAGGAACCCTGCACAGGAACTGTGTAGACAAGGTATGAGGCCA
GTTTTCCCAAGGAACTTTTATTGGCTCCATAAGTCAAGTTTGAGTCCTTA
AAGGAAAGCACACCATTCCCATCAAAGTCCTGGTAAAACAACTAGTTTCT
CTAATTGTGTCCTGTTGCAAAAGAAAACAGATTCTTATTGCACTTGTGCA
AATG

>Sequence 1188

ACATATCTTACTTGATTATTTTATTTTCTATCCCACCAATCCACACCTTC
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TGAACATCCCAAGCACCTAGAACAGTTTCTGACACATAAGAAGTATTCAA
TTATGTGCTGGCTGAATGTATGAATTAATAAGTTGAGATTCGATCACTAG
TTGAAGTATAAATATATTTTTTGCAAGAATAAATGCTACAGTAACTGAT
TATGACAGCTAATTCTGTGTACC

>Sequence 1189

>Sequence 1190

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>Sequence 1191

>Sequence 1192

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TTAAAACACATAAATTGTGTTAAAATCCACAAGTTCATAATGATACTAAA
AAAAAAAAATCTTGTTGGTTTCCTCTAGAGGCTACTAGAAAATCAGCTCA

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TTATTTCTGATATTGGTTTAAATAGAAGAAAGAAAACCAAGCATC >Sequence 1193

>Sequence 1195

>Sequence 1197

ACAGGAAGTGTCNCGGAGGAATATATAGAAAACTGCTAGGCTTAATTCTC AGAGGGAAGATTGGGTGTTTGGAGTGGGAAGCAAACATTTTTTACTGTAT ACACTTGTACC

>Sequence 1198

GGTACATGGCCCGCTCCCCCGTCCATTCCAGTTTCCTGCCCTCTACTGGC CATGACGGTCATCACAGTGCCCTCCTCATTCCTAACTTTTAAATACACTT GAGACCGCCTGATTAATCTTGCACTANGAAAAACAGAACAATACAAACAA GTAACAAAAACAAGACACTCACATACAATGNTTTTAATGCTTGAAAAGT >Sequence 1199

>Sequence 1200

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>Sequence 1201

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TTTTTTTTTTTTTTTTTTTTTTTTTTTAATTCAAAAACATTTTT TAAACTTTTTTTTGCCAAAAACTTTTCTTTGGAAATGCAAAAAATAAAAA AAAATAAAAAAATACAATCCCTGCCCGGGCGGCCCTTAAAAAGGGCA >Sequence 1203

ACTAGTCCATTCTCACACTGCTATGAAGAAATACCTGAGACTGAGTAATT TATAAGGGGAAGAGGTGTAATTGACTCACAGTTCTGCAGGGCTGGGGAGC CATGGCAATGGCAGGGAGAAGTACC

>Sequence 1204

GGTACTTTTTCCTACAAATGAGTAATTGAAGAATTTTGTTTAGCCAGAC CATTTAATTCTCATCAATTGCATAATATTTCTAGTTAAATCCGAACTTCA TTCTATATTAAGTAACATTTTATTCAGATCCATATCTAAATAGCAATTTT GTGAGATTTACTAAGAATTTTTCCTGGTATGTATGGTTTTTGGTGTATTGG AATGTACCTGCCCGGGCGGCCGCTCAAGGG

>Sequence 1205

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>Sequence 1206

GCATGGTGGTTTGTGCCTTTAGCCCTAGCTACTTGGGAGTCTGAGGCAGG AGCACTGCTTGAGCCCAGGAGTTTGAGAATACAGTAAACTGTATCACACC AATTAAACTGAGATGCATTTCCCCCCTTTTACACTAAGAAACAGACCCTT CTTTGTTTCTCACTGGCCGCCAAAGGGAATGCTGTATGAGCATTTCAGGT **GCAGATGCAGCTGCGATATCAGAAGACCCCG**

>Sequence 1207

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>Sequence 1208

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>Sequence 1209

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>Sequence 1210

>Sequence 1211

GGTACTCCTGCCAAGAGGGCGACAAGTTCAAGCTGAGTAAGGGGGAAATG
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GAGACTTGAGAAACCAGAGCCCAGAAGGGAAAAGTGATTGTCCCAAGATC
ACACAGCACTGGAGAAAGTGATGAGGAGGGGGCTGAAGAAGCTGATGGGC
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>Sequence 1212

>Sequence 1213

GGTACCAATAAGCATACCTAGAGTTGAGATTTTGGTTTCTAAATGCCATT
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GCTGGGGCAGGGAAAGTGAAAGAGAATCACAGAACATCCTGTAATGACAG
AAAAAAGTCACAATAAATGGTGGGATTATGTCAAAAAGGACATGGGATTCA
ACTTGAAAGATCTTCCAATAGCCAAATCTGAGAAAAGTTAAGCAACAAAA
AAAATAACAAAATCTTATAATCTATAGAAAAAATATGAATGTATA
>Sequence 1214

>Sequence 1215

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>Sequence 1216

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AATAGGCGGCTGCACCATCACGGATGTCCTGATCCGACATCCTGGCCTGT
AACCCTATTGGGGATCTGGACTCTAGAATAGGATTGCGCTGATATCCCTA
GGGTTACTTGTGCCGACGGGCAAGTTATTGGATCAGATTGAGTATAGTAC
TTGCGCTCTGACTGGTGGAGTCTTACCATGT

>Sequence 1217

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TGTTACTACGAAGGCAAATGAACTATGTGTAATGAACCTGGTAGGCATTA TTTATTGAATTATCATCATTCCATATGTCCAGCACATTTTTAATAGGAAA GT

>Sequence 1218

GGACAATGTTAAATATCTGACTTTTCTATGATTTGGCTTTTCTGCTTGAG
TAACTATTTAAATATCTGCGTGATCTTCTTTAATTTGGGCTACTTCTAGA
ACAAAACAGAGGTATTTACAACAAACCACTTGCCACAGGGCCTTTGAACC
GTTTACCTAAGTCAAGTGTAATGAAAAACATAACCAAATGCACCATGGGG
TTTATTGTTAGATAATAAAAGGCTTAAAAAAGCCCCTAGACCCTAAAAATG
CCTGGGATGGATGATTGATGCTCATATGCTACTTGAGCATGTA

>Sequence 1219

>Sequence-1220

>Sequence 1221

GGTACCTGAGCCAGGCCAATCAAAGTGTTTCTCAGGAATTAGGAATTTCA CACATAAAACCTGGAGAGATAGCACATGCTCTTTCTTCTTCTTGGACTG TGAGCTGTACCTGCCCGGGCGGCCGCTAAGGG

>Sequence 1222

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AAAAAAAGAAAGAAAATAGAACAGAAAAGCAATTGGATTTTAATTCTGGA
AACTCCTTTCTCTTCCTTACATCCAGGAAATTTGCTGTTTATTTTGAAAA
GCAAATTTAAACCTATTTAAGGGAGAGAGAGCTCTTGTAAAAATTCATTT
ATTAGTTCTGGACCAATGTTATTTATAAGCTATTATTTCAAATGATAAAA
AATAAATGCATAATACATTTGATGATAGAACATTTTTCTTTTTA
>Sequence 1224

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TTATTTTGGTATTGATCATTCGTTGTTGGTGTATTGAAATAGTCATAAAA
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AACATTCTAACCCGTAAGCATATTTTTTTAACAGCCTTGTTATACTTGAGG
TTGTGCACCACACTCACATAAATTTCTTTAGAGCTTGGGGCCCGGGTGTC

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>Sequence 1225

GGTACATCATTTGATGTATGTTTTTTGTTTTTTTAACATAAAAGGATTATA
TCCTTTTCCGCCAGCTGTTTTCACTCAATACATTGTGAAAATATTTTCAC
ATATGTTGCATGGGTTTCTATAACATTTGAAATGACTGCCAAATATTTCA
CTGTATGATCATCATTTAATATTATTATCAATTTTGTATATTTAAGTTAG
AACTTTTCCATTACCATAAACATCATTATGAATGAGCTTTCTTGAACTGT
ATTTTAATATACTTCCTTAGGATAAATGCTTAAAGTAATAA

>Sequence 1226

ACCCGATATGTATGTTGAATTAAGAGGATTTTTAAAAATGACCCTTAAGT
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TAATGGAATGTCTATTTCTTTAAAGAGCAGAGAACTACAGTTACAGGGGA
TACAGTGTGAGGGGTGACACATTGCTGGATTCTGAGCTCAGGCAAATCTG
TCTGTGTCTATATTAATAGAGGTCTATCTTTTCTTAATACTGAATGCAAT
GGACCATTCCAACCTAAGTTATCCTTGATATGCTGGGATTACAATAA

GGTACTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTAGAGACAGAGTCTCCCT
GTGTTGCCCAGGCTGGTCTCAAACTCCTACGCTTGAGCAATCTTCCCCCT
TGGCCTCCCAAAGTGCTGGGATTACAAGCATGAGTCACCATGCCCAGCCA
ATAATGATTTCTTGATTGAAGGAATGAATGAATTAAAAGGTTCATCTTTG
GACACAAAGGCAGACAAAAGTTTGACAAAAGGCATTTTTGAAACTAGGAC
CTTTATTATAATATTAGTCTAAACAGGGGGACCCATGAATAAGCATGG
>Sequence 1229

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TTGCCACTGAAGAAACATTGTTCTCTTGCATCTGAATTCCAGTGCTTTCC
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TCTTTCCTCCTTGAATTCTAGTACTTTGTGAACTGTTGAGGTGTCCCTTC
CTAAGTCACAATTCACACTGATGCATACACTATAGTGAAACACTGGCTTT
AAGAAAACTGATTAACAGAAAACCGGCAATTGTTATTTTAAAT
>Sequence 1230

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GGGTAGTCCACTTAGTGATATTATGTGGATGTGTAGACAATAATATTAGT
TCCTAGATTAAAAGCTATATGTATAGAAGAACAAAGATTAGCTGCAAAAA
GGAGATTGTTTGAAAGCGAAAACAGTGGGTATGGCAATACTGAAGTGGAA
ACTTCACAGATGGTACAGGTGGAAGGGCGCCATGAGACTGAAACACCATG
TAGTCAGTATAGAGGTGGAAGTGGAGGGGGGTATAGTGAGTTACAAA
>Sequence 1231

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CTTACGTGGTCGCGGCCCGAGTTCATTTAAAAGGGGGATGTTATACTTTA AAAAGGTTTAAGAAATAAATTTAAAAAGCCTTGGGAATGGTTTACGGGAA GGGTCCGCTTACTGGGCTTTTGGCCAGGGACTTAATTTTAAAACTAAAA >Sequence 1233

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GGGCAACTTCTAAATATTGATGCAACCATTAATAATAATGCTTATAGGGT
AAAAGAAAATTTTTGAAGCACTGAATTCAGTAACCCTGGGTCATGGGCCA
ATTTTGCTCACTACTTCATATGTTTTATGTAGATTATTCCTATAAACATG
TTCCCTAAATTCCACATTCATTTGTAAAGACAATGGATTAAATTATTCAA
ATGTGGCTATTTAACGGCCAGTAACAATGCCTAGAAACCTATT

AACTTTAAG >Sequence 1235

>Sequence 1236

GGTACTCGGATCTATGATAGAGTAGAATAAAACCTCTTTCGTCTACAAGC
ACAACTTATTCAAAATTGTGTGGCAACTCACACTAGCGATCATACCTGCT
TATATTCTCCTAGTTAGTCCCTGGGGGATTATACCTTTTAATTCTTTCA
>Sequence 1237

>Sequence 1238

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>Sequence 1239

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>Sequence 1240

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>Sequence 1241

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TGGGGCCAAAGAAGTGAAGACCTTCCAATCTTCCATATAAATATAA
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>Sequence 1242

>Sequence 1243

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GAGAACTTACCTTTTTTCCCTTTTTTGTGGGATTCCTTTGGTCATACCCTT
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TTGAATTCCAAAAACCTGTTCTCAGTTCGTTCTTAAAATTTCCCCCGGGA
GTGGAACCGTTTTTGGTTCAACCTTGACTTGCCTTGAAAACTCCCAAGAA
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TCCCTTTTTTGTTCCC

>Sequence 1244

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>Sequence 1245

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>Sequence 1246

CAGTCAACAAAGT >Sequence 1248

>Sequence 1249

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>Sequence 1250

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>Sequence 1251

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>Sequence 1252

>Sequence 1253

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TCCACACGCTTCAGCCTCCCAAAGTGCTGGGATTACAGGCGTGAGCCACC
ACGCCCAGCCTAAATATTTCTTTATAGCAATGCAAGGATGGCCTAACACA
CTGCCTAAATCAAAATTGCTATTCACTTCAAGGGTATTCATTACCTGACT
AGCTTTTTTGGGTGCATTTGAACATAATGTAAATTTTATGGCTGATCAAA
TGTCATTACTATGAAGATACTCCCTATGAGCTCACAGAGTCAGGACAT

ACAGTCTTTTATCTTGGGATAAAATGGCTAGATGAGTATGGACAGGAGG CAGGGCAGATACAGTCCTTGCTTCTGGTTTTAGAGTTCTTCTGAACCACA ATCAACTTCTCCAAACACCCACCTTTGTCTTCTACCACAATAGGGGTCAG ATCTATTGCTGACTTTTCCTCCACCTTCTCTACATCAGCAGCACCTAGGG GAAGAAATGTTATTGAGACTATACCTAAAGGAAGAACATTCTCCTCTGTT GCACACTATTATCCAATTGGATAGACCCACATCTAAATGTCTGCAATTAC AGTAATGTCAGCTGGGCATGGTGGCTCATGCCTGTAATCCCAGCATCTTG

>Sequence 1255

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>Sequence 1256

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GAGCTCACCCTTTAACACAAAAAAAGCAGGGTTGATGTATTTTAAAAAAG
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AGCAGTCTTTCTTCAGCTCACTTGGCTCTCTAGATCCACTGTGGTTGGCA
GTATGACCAGAATCATGGAATTTGCTAGAACTGTGGAAGCTTTTACTCCT
GCAGTAAGCACAGATCGCACTGCCTCAATAACTTGGTATTGAGCACGTAT
TTTGCAAAAGCTACTTTTCCTAGTTTTTAGTATTACTTTCATGTTTTAAA
AATG

>Sequence 1257

>Sequence 1258

>Sequence 1259

>Sequence 1261

>Sequence 1262

GGTACACTCCATCAAGCCTGGTTCCTAGGATGCTGGACTTCTAGCTTAGT

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GAGAATGCAGTATACTTTTTGAAAACTTCGTGCAGGAATCCCTCAAATGC
TGTAACTAGGAATGGGTCAGTGAAGTTCAAACGACTTTTCCTTGAGGGAG
TATTTTAATCGGACAAGGGAACTCTTTTTCTTTTTGGGCAATGGCCAACAG
GACTGAGAAGCCAGAGAGCTTGCACCTGAGCCATCTCAGCCGTGAGAGTA
ACAGTCCTAGGAAAATAGATGGGGGGCTGGGGGTAAGGAAATGTGCTGAAG
ACAGAGCTATTCTGGA

>Sequence 1263

>Sequence 1264

>Sequence 1265

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>Sequence 1266

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TGTGATTTGCTTACCTGTGATTTTGAGACCTATATAGTGAAGGTTTGTTG
CCACTTTTTAGTTTCCTCAAACATGCAGAAGTAATGAGGTTTGACAGAGA
CATGAGACTATAAGATGTCTGTCATTGCTGCCAACCATGGAAAAGATGTT
AAGATGTCCAGCTGCCCATAAAATCATATTTTCAAAGTGTGAGACACGAA
GAATATCTTTCTCTTATTTGGAAATATGCTGAAGATAGGAATAAAGAAAA
GGATTACAGTAAAATGGAGACGAGAGATACAGTAAAGCAGAAATGTATAT
GCC

>Sequence 1267

>Sequence 1268

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TAGAA

>Sequence 1269

>Sequence 1270

>Sequence 1271

GGTACAATTTTTAGTCAAGGGATTGTTTGATACTCTTTAAGTTCACTGCC
AGGCCTACCACTTATCTCTGTCGCAGGAGGAGAGTTCCTGTAATGAGAGG
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GGAGCTCAGGATATTAAACTGAGTGGTGTCAAATATTCCCAGGATCAAAT
CGACAATGCCATTGTGTTCCTTGCCCGGGCTGGCCGCTCCGAAAGGGCCG
AATTTCCAGCACACTTGGCGGCCCGTTACCTAGTGGATTCCCAAGCTTCT
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>Sequence 1272

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TTGAATTCGGTGAGGGTCCCACACCCTCAAATCCTAATTTATCACAGCAC
AAGCCCTTCCTTGGCTGCCAAGCGCTGGCGGAGAACTTTGTCTTGCTGCA
GCTCTTCATGAATTGGATGCCAGAGTTTCGTGATGATCCTTTCAATGTTA
ATAGCATAGACTTGCATGTGTAGGGATGACTTCCCTTTGCACCTGCTAAG
GTTGATAAGAATCGGACCTGCACTTGGCGGCCGCTCTAAAGGGCTAATTC
TAGAACACTGGCTGTT

>Sequence 1273

>Sequence 1274

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>Sequence 1275

>Sequence 1276

>Sequence 1277

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>Sequence 1278

>Sequence 1279

>Sequence 1280

Page 232 (of 261 pages in Table 2)

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>Sequence 1281

>Sequence 1282

>Sequence 1283

>Sequence 1284

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Page 233 (of 261 pages in Table 2)

>Sequence 1288

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>Sequence 1289

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CACTGCTGATAAAGACATACCCGAGACTGGGTAATTGAGAAAAAGAGGTT
TAATGGACTCATAGTTCCATGTGGCTGGGGAGGCCTCACAATCATGGTGG
AAGGTGAAAGGCACATCTTACATGTTGGCAGGCAAGAGAAAATGAGAGC
CAAGCAAAAGGGGAAACCCCTTATGAAATCATCAGATCTCGTTAGACTTA
TCCACTACCACAAGAACAGTGTGGGGGGAAAGCACCTCCATGATTCAN
>Sequence 1290

>Sequence 1291

>Sequence 1292

>Sequence 1293

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AGGGAAATTTCACACTGTATTGTAAAGAGAGGAGACTTTTATGCCAAAAT
ACAGTAAGTCTTTTAGTCAGATAAAATTAATAATCTTAAATTCCATTCAT
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GAAAACGAATAAGTAAAAGAATCTGAAAAGGAGAAATAAAA
>Sequence 1294

GGTACAGTGGGAGAGTGAGGTGGGAGAAGAAGAGTGTCTGGTTTTGTGTG

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>Sequence 1295

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>Sequence 1297

>Sequence 1298

>Sequence 1299

GGTACTAAACGTGATGAAAAATATGCCAGACCTGGCCGGGCCTGGTGGCT CAACGCCTGTAATCCCTGCACTTTGGGAGGCCGAGGCAGGTGGATCACGA

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>Sequence 1300

ACATACAAAAAATCATTAACTCATATATTTCAAGAGTAGGAAATGGGAACTGGTTTAAAAACTCTTATAACATATGTCACTGTCTTAAGGGACAGTGTTTAAAAAACGCATACCTGGCCGGGCGCGGTGGCTCATGCCTGTAATCCCATCACTTTTGGGAGTGCCGAGGCTCGGCTGATCACAAGGGTCAGGAGAATCGAGACCATCTCTGGTTTACACAGATGAAACCTGAGTCTCTACTAGAAATTACAGAAAATAAAAAATAAAAATGTCTATTGGACTGAAAACAACACTAAGGTGCGATTTCCAGTTCACTGGGCGGTACTTTTTT

>Sequence 1301

>Sequence 1302

>Sequence 1303

>Sequence 1304

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>Sequence 1305

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GAGCTACATGATGTTGTGCACTGAAATTACCCAAATGTTCTCGCCTTCTC
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AGACAAATACTGCTGTCAGACCATACTGTTTCATTGAATTTGATAACTTC
ATTCAGAGGACCAAGCAGCGATATAATAATCCCAGGTCTCTTTCAACAAA
GATAAATCTTTCTGACATGCAGACGGAAATCAAGCTGAGGCCTCCTTATC
AAATTTCCATGTGCGAACTGGGGTCAGCCAATGGAGTCACATCAGCATTT
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>Sequence 1306

>Sequence 1307

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GAAAAACCTAATGCCGGCTGTCCCTCAAAAGCCTGGGGCCAGTGCCTGGG
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GCCCTGAAGAAAGTGGCATAAAAAATGACCTGGCTGGGCACAGTGGCTCAT
GCCCATTATCCCGGCACTTTGGGAGGCCGAGGTGGGCAGATCACCTGAGG
TCAGGAGTTCAAGACCAGTCTGGCCAACATGATGAAACCCGGTCTCTACT
AAAAATACAAAAATTAGCCGGGCATGATGGTGGCGCCTGTAACCCCAGC
TACTCANGAAAGTGAGGCANGAAAATCTCTTGAACCCAGGAGACAGC
GTTGAATTTCCCTTTGTTTGAACTGGCTTTTCATGGTCCTTAACCATTCT
CTCTTCAAATGGTTCTATGGATATTTTTTTCCTTTTGAGGTTTGACCTT
TTAATCTACTTGGTTTTCCCTGGTTGGTGCAAAGTGTACCCTGGCCGGGG
CGCCCGGTTTAAAGGGCGAAATTCCAACACACTGGGCGCCCGGTTCTAAG
GGATCCCACCTTGGTTCCCAACTTGGCGTATAAAGGGCATACCGTGCC
TGGGTGAAAATGTTTCCCCTCACCATTACCG

TTTTTTTTTGGGTCACAGGAGTCCTGACTGGGAAAACCCTGAGCTACAA AGGTCACTGAAAAGTCATTTCACTGAACAGAGCTAAGGATCTAGGATAAA TTGTAATAACAGCAAAGTGAAATTTTTTTAAAGAAGAGCAAAACTCAAAG TCAAAACATCACATACTCTTATGCCTTTGGAAAAGAAATAATAAAAATAG AAATTTGCCTCCATCAAAATTATAATACTATTTCTGAATTCAGGGAAAAG ACAGTGTTATTAAAGGAATTAATTAAATATATCAAATTTCTACTCTATTA TAAACATACCAAGAAAATGAAACAAAAAATTAATTAAACAAATTATTTGG TTACAGGGGGGATCAAAAATTGGCCCCCACCATGCGGGTGGGGTGGCCCC TTTTTTTTCCAAGGGATAAAGATTACAGGTGGTGGACCTTTTGGTTTTT TGGGGGGTGGCTGCTTT

>Sequence 1309

> Page 237 (of 261 pages in Table 2)

CCCTTTCCAGCGCCNCCCCGGCAGGTACATACCCTTGTAGGATAATTCA TCTCTAATTGAGAGGGGAGCTGACCTTCTGCTTCCTTTTAATCCCAGATA CCGATTGCCTAAGGGATCGTTTGACTCAGACTAGTGAGAGGTGTGCAGAT GACATCCTTACACTCTGGTATCATGCTATATGGTTGTTGCATCCAGTTGT **ATAGGGATGGETGAGGATATGGATAAATTAGGGTGAGTGTATGACAACTA** TCTATATAATGGTTTAATTATACTTGGACGTCGACCCTGCATATACACTA TATATTTCTTGGAGCTATCTTAACTGCGAAGAAATTGTAAAATTTGAGAC GTCTCTCATGAAACATATTGAGATATGTCGATAATGGAACATGTATTGTT TCCTCGTTGTTGGTATAAAATATGCACACTGAGCTCAAGCGCATGTAACA CTAAATATGCAATTGGTAAGTTATGAATCTCTGTTGTCCATATATAATAT ATACATGAGTGGAGTGTACAAGTGGGTTCTCTCTCTGTGTGACACCTAGC GCGCATATAAGACATATATACCTAGGTGATANGTCTATGCATAGAGTTTG AGAGAGTCACAGTACATCACTTGTGACATATGCAGTACGAGTGTATACAC ATATATATGGTTGCACATGATGAGATCTAAGACTATATGGTACTTTACAT **ATGTACGTGCGCGATAAGTCGACACTCATGNTGGTGATTATGTAGTGTGT** TCCTCAATACATGTGAGTAGTGTACACTCTATCGTGTGCGTAGTACACTA GGTGCGCGTTATATCTTACGTGTGTGATATACCGNAGCACTCGTGAGATA CGCAATGGCATTGGTGTCGTGACATATCATTTGTGACTTATGTAAAGNTA GATATTACGTGTGGTGTGATAAAACANTCGATATGTCTCAATGTGTCTAG TCACTATTGATACGACACACGACATGTCTGGTGCGCGATGATAAATGACA TATTATGTTCTATATAANACATCTCGTAGCACTACGTCATGATTGACATG **CGAGT**

>Sequence 1311

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>Sequence 1312

>Sequence 1313

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CCCTTGAGCGGCCGCCCGGGCAGGTACCTTCTTAGAAACCTAGACTCCAC AGAACACTGTTTGACAACCACTGCAGTAGAACATAATATATCAAGATTCT ATGAGTGGGTTTCTTTCTTCATTTTTACATGTTGTAGAATAACATGCATA **ATCAAAGCTAATAATACTGTGTTTTCTTTACTCTTTTATTTGCCTCTAAA** GACATCCACACATAGTGGTGAACTGATTTTTAATGCGTTTTAAATAACAA GCATTGAAAAATATTAATAATTGTAGTTACTAAAAGTATTTCTCTTTGCG ATTCTCTTATCTGTGTTTCCAGACCGGTTGGAGGGTGACAGATCAGAATG CTCTGGTCAAGAGAATGAATATGAGGATGAGGAATAATAAACTCTCTTTG GCAAGCACTTAAATGTTCTGAAATTTGTATAAGACATTTATTATATTTTT TTCTTTACAGAGCTTTAGTGCAATTTTAAGGTTATGGTTTTTTGGAGTTTT TCCCTTTTTTTTGGGATAACCTAACATTGGTTTGGAATGATTGTGTGCAT GAATTTGGGAGATTGTATTAAACAAAACTATCAGAATGTTTTAAGACTTT TTGCCGTGTATGAAGAGTGCTAGAAAATGCAAAGTGCCATATTTTCCCTA ACCTTCAAATGTGGAACCTTGATTCAATGGTGAAAATAATTTCATCATAG TGAAATGTTGGTTCAAAATAATTCTACACTTGCATTTGGAATGTTGTTGC TTTTATATAAAGAGACTGGTTGT

>Sequence 1315

>Sequence 1316

>Sequence 1317

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GATCAATAAGTTTATTTATGTTGCATCACACAATAGTTACACAAGCATTA AAAACACATGCACACGTGTTTATTATACCATACATACAAACACACATACA ACTTAATATTTACAAGCACATACAAGCACATACAAACATATAAACAACAA ACAACACTAATTTAACATACATACAATACTTACAGCTTACGTTTTTTGCG TTTAGCAGTTGTAGAGGTAGATGAGGCGGTGGGTGTAGCTTTTCGTTTTC CTAATGTAAATTTTGGTTTGGCCATTAATCCTGCTTGTAGTAAAAATTTG CGTCCTAAAGGAAACTGATCTAGGTCTGCAGAAAACTTTTCCTTTAAATA TACTGCCCAAAAAGAGTATTTTTTAAGGGGATCTTCTTTAGGTGCTGGAA GTGTATTGTTTTGACAAGACATTGCCTGGGATGTTACAAAACCTTAAGTA TCTTTTAAGGGGCCTCCTGGGGGAGGTTGTAAACCAAAATTTCAGACTTC CAAAATAGTGGAATGCATAAAATGTTTTTTATTTTATAACGTTTTCAGTT AATGTTATTTTCAAAATTGTAAAAAAAAACTGTAAAAATTTTTCATTCTAT GGTGGAGGTACTTGGGCCGCAACCCTCTTAAGGCTAATTTAGCAAACTTG AGGCCTTTCTAAATTGTTCGAATTAGGTCTCTAATCTTGTTATAAATTAT **ATATATCTGAATG**

>Sequence 1319

>Sequence 1320

>Sequence 1321

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>Sequence 1322

>Sequence 1323

>Sequence 1324

GGTACTTGGTTTAGTTATGGCTGTTTTTTGCCTCTAACACTTTTATTTTA
AAAAGAAAATTAAAATAGGTTATTGGGATCAAAGATATAGGCTTTTTGTT
ACTTTGAATGATTTTTGTAATTCAGAATATGCACTTGTTATTTCAGTTCT
TATTTTTATAATTATTGGTAGAGTTCATCTAATTACCCTATAAATCCCTG
GAGAAAGGTGGCCCCCATATACTTTATTTCTTGGTTATATGTATAAAAAT
CAGTAGGCAATGTAAAAATGTTTTTTGTGTGAATTTATGTGAGTTATAATT
CTAATTCTATGTCAATATTCACCTCAGATTACCACATGAAAGCTCAGTCA
CCAACTATGCCTCATACTGAAATACCCACTGATTAAATCAGTTGACAACC
AGCTCCTATCGTACCTGCCCGGGCGGCCGCTAAGGG

>Sequence 1325

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ATTTAATTTTTTAAGGGATT

>Sequence 1326

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GGAAGAGACTCAAGTAGGAGCGCCTGCCCGAGCTGATACTAGATGTGAAC
CTTTCACCATGAAAATGTTAAAAAGATATAAAGGAAGGAGTTAAACAATAT
GGATCCAACTCCCCTTATATAAAAAACATTATTACATTCCATTGCTCATGG
AAATAGACTTACTCCTTATGACTGGGAAATTTTGGCCAAATCTTCCCTTT
CATCCTCTCAGTATCTACAGTTTAAAAACCTGGTGGATTGATGGAGTACCT
GCCCG

>Sequence 1328

CCGGGCAGGTACCGGAATCTGCAGATCGCCAAGATTTTCTATAATGATGC CCTCCTCACGTTTGTCTGGAAACTGGTTGTGAACTTCCGAAGAGGCTTCC GGAAGGAAGACATAAATNNNCCNANACGAGGGGGGACATAGGAGCTCCAC GACNNTNTCTTCTATTACTCGGCANCCCCCTGCAAGCCTCTCTTCATCTG GGGCCATTCTTCAGCAATNAAGAAGGGCAAACTCTCCAAAGTTCATTTTG GGTAGCCAGAACCAGGGGGCTGCCACTTCTGGCAAGCCCCTGGGGAGCCC AGGCAAGGCCTTCATGGAAGAACCTCTTGGCCAAAGGTTGAAGAAACGAA CAATCATATGCCTGNCATGGGGAGGTCCCGAGGAAGCCCTGGCTGAATGA GGTACCCTCGGGCCCGCTTCTAAGAAACTAAGTGGGAATTCCCTCCGGGG CTGGCAGTGAAATTTTCGATTATCAAAGCCTTAATTCGAAATACCCGTCC AACCCTTCGGAGGGGGGGGCCCCGGGTAACCCAAGCTTTTTGGTTTCCC TTTTAGTTGAAGGGTGTAAATTGGCCGCCCTTTGGCGGTAATTCATGGG TCAATAGGCTGGTTTCCCTGTAGTGGAAAATTGTTTATTCCGGCTCAACA ATTTCCCACACAACCATTACAAGCCTGGGGAGCCATAAAAGTGGTAAAAG CCCTGGGGGTGGCCTAAATGAGTTGAGCCTAACTTAACATTTAATTGGCG TTGGCGCTCACCTGCCCCGCTTTCCCAGGTCGGA >Sequence 1329

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CAAGATGGAAGGAACTGTGAGCCTTCTGGTCTTTCGCCAGGAAGACGCCT
TCCACCCAAGGGAACTGAAAGCAGAAGATGAGGATATTGTTCTTACACCT
GATGGCACCAGGGAATTTCTGACATTTGAAGTCCCACTTAATGATTCAAG
ATCTGCAGGCCTTGGTGTCAGTGTCAAAGGTAACCGGTCAAAAGAGAACC
ACGCAGATTTGGGAATCTTTGTCAAGTCCATTATTAATGGAGGGGCAGCA
TCTAAAGATGGAAGGCTTTCGGTGAATGATCAACTGATAGCAATTAATGG
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GGTCTATGTCTACTTGAGGCCATAAACGAAGAATGATCCCGCCTTCC
>Sequence 1330

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Table 2

>Sequence 1331

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>Sequence 1332

>Sequence 1333

>Sequence 1334

>Sequence 1335

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>Sequence 1336

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Table 2

>Sequence 1337

>Sequence 1338

>Sequence 1339

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>Sequence 1340

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TTGAATTTATTGTGTAAAATTGCTCAAAATAGTCAATTTAAACAAATTTC
CTGTTTTACTATTTCCCCCTTGTCATTTAAATTTTTTGTATTTGTGCTTCC
TCCCGCGT

>Sequence 1341

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ATTTAACACTTCCAATTTTGGAACTATTGGATAAATAATGATGGGATTTA
AATAAAGCAATCCGATTCTACTATTACAGCATAGGGTCTCTTGTAGTCCT
CTTAGTAAAAACTATTGTGACACTTCCTTCTTTCTCCAAATATTCGGCCT
GGAAAGACCTAAATACAATGCAGGGATTGAATCAAATTCACACATTTTTT
TTCCTACGGAAACAACAACCTTTCTTGCTTATATTTAACAAAAACTAGTA
TAGATT

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>Sequence 1342

>Sequence 1343

>Sequence 1344

TGTACTATAGGGAGTCGACCCACGCGTCCGTCCAGAATTTCTAGAGTGGG TGGGCATGATTCCAGTCAATGGGGGACCGCCCGTGTCTAAGCATGTGCAA AGGAGAGGAGGAGATGAGGTCATTGTTTGTCATTGAGTCTTCTCAGA ATCAGCGAGCCCAGCTGTAGGGTGGGGGGCAGGCTCCCCATGGCAGGGTC CTTGGGGTACCCCTTTTCCTCTCAGCCCCTCCCTGTGTGCGGCCTCTCCA CCTCTCACCCACTCTCCTAATCCCCTACTTAAGTAGGGCTTGCCCCAC TTCAGAGGTTTTGGGGTTCAGGGTGCTGAGTCTTCCCTTTGCTGTGCCCA GGTCATCCCAAACCCTTCTGTTATTTATTAGGGCTGTGGGAAGGGTTTTT CCTTCTTTTTCTTGGAACACTGCCCCTGTTCTTCACACTGCCCCCCATGC CTTAAACTCATACAGATTGTCCATCATGGGGGGCATGGGTGGAGCAAAAG GGCTTCCTTAACCCCGGCAGGCCAAGGCAATTGGTAAAGGAAGCACTTGC CCCCCTTTCTGGCCCCTTCTTAATCTTTAATAAAAAACCCGGCTTCTTAT CGCCCCTTTGACTTATCTTAGAGAAAAAAACATTTCCAACCTTCCCCTT GAACCTTGAACCATAAAAGAAATCCATTTTTGGTTGTAACCTGTTATTTG CACTTAATAAGGGTTCCAAAATAACAATATCCTTCCCAATTTTCCATATA **AGCCATTTTTTTACTGGCTCT**

>Sequence 1345

ACGCTTGAGAGCCTAGGACACGGCCCGATATTACTGTGCGTTTCACAAT
CGGGCCTCTACTGGGGCCAGGGAGCCCAGGTCACCGTCTCCTCAGCCTT
CACCAAGGGCCCATCGGTCTTCCCCCTGGCACCTCCTCCAAGAGCACCT
CTGGGGGCACAGCGGCCCTGGGCTGCCTGGTCAAGGACTACTTCCCCGAA
CCGGTGACGGTGTCGTGGAACTCAGGCGCCCTGACCAGCGGCGTGCACAC
CTTCCCGGCTGTTCTACAGGCCTTAGGACTTTACTTCCTTAACAGCGTGG
TGACCGGGCCCCTCCACAACTTTGGGCACCCCAACCTACATTTTTCACGT
GAATTACCAGGCCATCAACCCCAAAGGGGCAAGAAAGTTGTGCCCAAATT
TTTGACCAAGATGATACATGCCCACCGGCCCCGACCCCTAACCTCTGGGG
GGGCCCGCAGTCTTTCCTTTTCCCCAAA

>Sequence 1346

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TCCATTTTTGATACATTAAGCTTGGTATGTTTAATTCATAGCTATATAGA GGTATTAAATTGGCAGGACAAAATCATAGCTAGAGATAAAAATTTAGAGT TCACCAGTGTAAAGATGATATTTGATGGCACAGGATGGACTTTCTTCTGG GATTTGAGTATACATAGAGGAAAGATGTGAGGATTGAGCACCAGGGGACT TCAACATTGACAGGCTCAACAGAGGAGAATTCCCAAGAGGATGAGGTTCC ACCTTTAGGACCGCCAAAGAAGACTTCCCAGACAAGTACCTGCCCGGGCG GCCGCTAAAGGG

>Sequence 1347

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TATCTACCTAGAGTAATTTTGGCAATTTGCATTTTTCTCAAAATAGTTTT
TGAATTTATTGTGTAAAAATTGCTCAAAATAGTCATTTAAACAAATTTCC
TGTTTTACTATTTCCCCCTTGTCATTTAAATTTTTTGTATTTGTGCTTCCT
CCCGCGT

>Sequence 1348

>Sequence 1349

TCCCCCCAATGGGCACGGGGTTTAATTCCCAAATTTTTAATTTTTGGGA TTGGGCCAAAAAAATCCCCCCTTTTTTTCCCTTTTTAAAAAACGGAAG TGGGGCCTGCTTTTTAATTCACCCTTTTAAAAAAAAATTCTGGAGGGTTTC CCAATTTTTTTAAGGAAATTTCCCGTGGAAATTTTTTAAAAAAGGGAAA AAAAAAAGGTTTTATTTTTTTGTAGGGCCCCCACCCAGTTGGTGGGAAA AGCCCTTTCCCCAATTTTTTCCCCCTGCGGGCAAAAGGTTTTTTTAAAA AAAAAATTTTTTTAAAATCTTTTAAAAATTGGTGGTTTTGAAATTTAA CAAACCGTTTGTTAGCCCCCTTGTAAATTGTTTCCAAACCCAAAAAAAGG TTTCTCCCCCGTATTTCTTTGGCGGGAACCACTTAAGGGGTATATTCCCC **AATCTGGGGGGGTTTTATATAAAATTCAATTGTTAACACAATTTGGGAAA ATAGGAAATAATTG**

>Sequence 1350

>Sequence 1351

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>Sequence 1352

AAAGTTATTCAAATTTCAAATTTATTTACAGTGTTTGAAAAGCACACAAC AATAAAAATCTAAGGTAAGTCAAACATACAAACTCTACCTCTTGCTTTCT CCATTAGAATATACACATTGGAAATCTAAGTTCCAAACAGTTCCTCTCTA CTGAAGATAGTGAAATTTAGTGCAAGCCCCCTAATTACCAATTTTTTGGA **TGCTTACA**

>Sequence 1353

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>Sequence 1354

TTTTGAAAAATACAAAGAATTAATAAAAAATTTTTTTTTAAAAAATTTT TTTTAAAAAAATTTTTATTTGGGGGGGGGGTATAAAAAGAAAATTTTAA **GAAAATGGGG**

>Sequence 1355

GGTACAGAACCTGCCTGAGTATGACCTCTCCACCTTATAGTTTATGAATG TTTGGAAGTTGTATGGATTTTTTGTTATCTTCACTTTACTGCATAGGAAA CAATCTACCTCATCATTTAAAATGACATGGGTGTCGGTTTTGTAGATCTT TGGTTTTTTTGTCAGGTTTAATTTCAGTTAACAAAATGTAAAACATGACA TTCCCTGCAGATATTGTTGTATACCAGTATGGTTTCTTCTCTTTAA ATGTTTTTGGCCATCAAGTAGN

>Sequence 1356

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>Sequence 1357

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>Sequence 1358

GGTACTTACATGGAAATAAGTGTTAAGAAAAGGA

>Sequence 1359

GGTACAAAGAAAAGCTAAGGAACGGTATGTATATTAATCCCTTTATTAA AAATGTAAAAAGCCAAAAGCAAGATAGACGCAGATATGTGCCAAAATATG TATTTTTTTTCCTGGAACAAATCACAAGAAATGTAATAACAGTTACAGT GAGAGGAGCCTTTGACATCTCTTTCTAAACTATTTGATATCATTTGTATA **CTAACGATGT**

>Sequence 1360

GTTTTATGAGTGGGGTGGATTGTAGGTTGAGCAGAACTAATGGGAGAGGT

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>Sequence 1361

>Sequence 1362

>Sequence 1363

GGTACATTTAAAAGGTGATGCTAATACTCTAAAATGTATAAGATATAGAT GTAAAAAGCATTGTAAATTGTATACTGCAGTGTCGTCTACATGGCATTGG ACAGGACATAATGTACAACATAAAAGTGCAACTTGTCACACTTTACATAT CGATGAGTGAATCGGCAACTACGACCAATTTTTGTCTCAAGTCAAAATAC CAAGCACTATTGCACAGTCTACTGGATTTATGTATATATGACATATCTGG ATACTGCATGCACCACATTATTGGCGGCCTTTTAGCTAAGCTGTAGAGTG CTATTGTGCGACCGCTTAGTGATACTATTCCTGGT

>Sequence 1364

>Sequence 1365

>Sequence 1366

>Sequence 1367

ACAATATATTATGAAGCATGACCACTTTATTTTGAAACTTAGCAATTGTA TTGCTGGGGTTTATTGTATCTGTAGCATGTCACTGATTATTTCAGTTAGT

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TTTATAATGATTTTTAAAAAACATATCTATTTGGAATAAGATACAGCAAC AATCATTGCTATTGACTTGTTCAACCCCTTAGTTACACTGTATGATCAAC ATATAACAAGATACAGTGGAATGGCCCATACAGTATATTACTGTTGTGTG ATGATTGGCTTTGGAAGCAGTTTGATTTTGAAATGCTTTGATATTCTAAT TGACATGGAACAAG

>Sequence 1368

>Sequence 1369

>Sequence 1370

>Sequence 1371

ACTGTCGTTTCCTTCCTACCTCGTCCTCACCCCACCCGAGTGAAACTTT
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ACACAGGTTTGGAAGGAATAGTTAACTCTCCAGTATTATTGGAACATCTG
GACACCACCAACAAAAAATCTTAGAAAAAGGGTCATTTAAGGCCTATAAAA
AGTGCCACCTTTCCCAGAATTAATTCAGAGAGAAAAATCTTATCTGCCTC
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>Sequence 1372

>Sequence 1373

GGTACAGCTATTCTCAATGGATAATTCTATAAAATATTTAAAGAAGAATC
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TTCCCCCTTAATTTATGAGGCCAATATTACCCTGATGCCAAATCCAGACA
AAGATATTGTCCCCCAAAATAAAACTAACGATCATAGATAAATACCTCTT
ATAAATTTAGATGCANAATCTTAAGCANAATATATTAGCANAATGAATTC
AACAATGAATAAAACATATTATACACCAAGTGGGATTTATTCTAGCTATG
CAAGACTAGCTTGACATTTGAAATTGATTA

>Sequence 1374

CCCTTTGCGGCCGCCCGGGCAGGTACTGGGAATACAGGCATGAGCCACCG CACCCGGCCAGAAATTATAAATCTAACCAGGATTCCCAAACCTACAATAC AATGGAAATATCATATTCTCTCTTATAGGGTTTTTGGGTTTTAACCCAAT

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>Sequence 1375

ACGCGGGGATATGATTGCCCGCCGAATCGTGGTTCTCTTTTCCTCCTTG GCTGTCTGAAGATAGATCGCCATCATGAACGACACCGTAACTATCCGCAC TAGAAAGTTCATGACCAACCGACTACTTCAGAGGAAACAAATGGTCATTG AATGACCTTCACCCCGCGAAGGCTACAGTGCCTAACACAGAAATACGGAA AAAACTAGCCATAATGTACTTTTGTCCGTTACCACGCTGAGGGCCGATTT TTTGCCCACTAACCGGTCGTTACTAGTGGAGACTAGCGACGATTCCAAGT TGTCATATTACTCGATATATCTTA

>Sequence 1376

>Sequence 1377

GGTACCATATAAAAACATTCCAGTGTCAACAGCACTTTAAATTTTCACAG TAATATATGAAAGAACAGACTTTACACTTCTTTTTGCACAGAATTATCTTT GCTATGTTTTAAAATACTTAAGAAATAGAAACAAATTTAAGAGAGTTTTC ACCTTTAAAATTTATTACATAAGCTATACACACAAAATGAAATCCTAGTT ATAAAAGATGCATCTAGAAGAATAATTTATAATAAACCAACAAAAATGAG AATGTGTATCTCCAGGAATATAAATATATTTAAATGTTCTCAGTGACTGG CATTGCTTTATGCATTACATAAGATAGTATGT

>Sequence 1378

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>Sequence 1380

ACAGTAATTTTGGAAACCTCTTTGATGTCTGGCTTATAGAAGACACCTGN GTTCTTATATCTGCTTCTGAATCGATCTATCGTAATGTCGTATTTTGGCT GAAGTATGTGAAGACAATACTACCTTACAAAGATATGTATNTTCAAAAGG AAATACATATCATAAAGTTTGACAAAGCCAGTGAGTGATACTAAAGTTGT CACGATGGATGGTGTCTATCTGGAGAGCTGGCAGGGAACAGCCAAGCCCC TTGAGCGCTCCTTGCAGAGCAAGAACTATGATTGATGTGTTCTTACTCAC TTGTAAATTGCGTGATTGTGGCTCTATTTCAATAACTTTTCAGAAGACTT GAGATATTCTTCTTTTGATACTACATCAGAACTTTGGCAAGTACTTCAAGT AGTAAATTTCGGAATATTTCTTTTTAAATAATGTGG

>Sequence 1381

>Sequence 1382

>Sequence 1383

Page 251 (of 261 pages in Table 2)

>Sequence 1384

>Sequence 1385

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>Sequence 1386

>Sequence 1387

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AAAAAGAGATTTTTGTAATAAAAAGGGGGGAGAAAAACAAAAAAGGAGGG **GGTTTTAAAAAAGGGAGAAGGTGAGGG**

>Sequence 1388

GGTACTTNTTTTTTTTTTTTTTTTTTTGGTAGTAAAAATATCCCAATCTC TTAAATGTATAGGTGAAAAATACTTAGTTTCGAAATGATTCCTTAAAAAG CAACAATAAAAATACTCTTCTTCACTTGAAAGAAAAAAACCCAAAAGGCAG TGTTCATACAAAGTCATGAAGAGAATTTAAATTAAGGTTTTGGTTCCACT TTGTCTCAACTTTAACTTTTAACAGTTCTTTATAGGCTTTTGAAACCTAC TTTGGAGAAGGAAAAAAGTAGGAATAACTGTTCTTCAAAAATTTTACAA AAACAGTTTGACTCAGCTTCAGTTGTTAAA

>Sequence 1389

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CCCTTCGAGCGCCGTCCGGGCAGGTACTCTCAAAAGCTAGGGCTGATGA CTGAGCAACTACAGAGCCTGACTCTCTTTCTACAGACAAAACTAAAGGAG AAGACTGAACAAGAGACCCTTCTGCTGAGTACCCTTGCCAAGATGTCTGC ATATGCTTTGCCGACTTGTCTACTGAGTTAGACAAACTTGAGATTGTTTC CCTTTCTTAACACAGATTTGAAATGTAGGAGACAAATCCTAGCGGATAAA ATGACATATCTTTAATATGAGTACTGTGGCAGTCTCACATGGAGGTCACG AGTAACAGACTCAATGCCTAAATAGCTGTTTACCACTGCTTTTCTGAGCA ATATTTAACTTATACAGACTATAAAGGAGCAGGCCAAATGGTGAGGTTTT TAAAGGATGTCAAACACTGTTTTAACAATACGAAGCCCCATAGTTTAAAA GGATATTCATTCCTATTCTCAAACAATATGGAGAATTATCCATCTGAGAA TCTATTGGGTGTACAGACCCTTAGTAAAGGAGGGGTCCTTAAAAAATTTG TATGGAAAACCCAGTTGCCCTTAATTTCCTAACCATTTTTATGGGATGTA TCCAGATCGAGGGCACCTTATGGGGGCCGCATTCCAAAAATAAGGGTAA CAGGGAACCCCCAAATTTGAAAATAGGAAAAACTTGTGGCCGAAGAAAGT TTTAATTTTTGCCCCCTCTAATTTCGCAAGGTGAGTTTCGTCCCTTTGTC TAAAAAAAT

>Sequence 1391

and the second second second second GGTACTTTGGTTGTGGGTGGAGGGTGTTTTAAATAACAGCTTTACAGAGA AAGTTTTACCTTCTGTCACATTGAAAAATCTCCTATATTCTTGAAGATTC TGAGCAATACATTCACGACCCAGGTTTGGGATTTGCATACTATTGGAGAA ACTGTTTCCTGAAGATAAACACTTCAAGAATTTGAGAAAATTAAAACTAA AAACCCGAAACATGAACACAAAGGCACAAAAACATTGCCCTAACATTGCA AAAAATTACCTTAAAATCCTGGATTTGCTTGGAAGAAGAAAATAGTTTTT TTTTGTTTTGCAAAAACTTTGAAGGAATGGCATGAACCTTTAAAAG

> Page 253 (of 261 pages in Table 2)

>Sequence 1392

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>Sequence 1393

>Sequence 1394

>Sequence 1395

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CCTTTGGGAAACTTTTTTACTTATGGGCCAAAAACCTTTGTAAAATTTAT CTTTTTGAAAATTTTTTAGGCCCCCTTATTTATAAGGGTTCCCAACCGGG GATATTATTTTTATATTTTTTA

>Sequence 1396

CACATGTGTCGCCTTAAATCATCCAACCTTTCAGTCACTATGTGTAA GGCAGTCTGCTAGGTTCCAGGAATGTGGGGCTAAGTGAATAAGATGCAGC TCCTTACTTTAAGTCTGGCAAGGAAGATGCATTTTTTACGTATCTTCCAC AGTGCATTGTGAAACATGCCATAAGGAAGGGATAAACACTGATGACAAAG TAATTGCCAACTNTTACTAATTTTGTCAAATTTCAGAGAGGTACC

>Sequence 1398

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>Sequence 1399

GGATAAATAACTTGTTACCCTGGGACTTTAAGGGTCGGGCACCGGGAATA GGCCACCTTAAGGGGGGTTATCCGTGGGTTCCCACACCTCGGGGATAACC CCAGAAAATACATTTTTGCCAAAGGCCGCAAAGGCCCTGAACCTTTAAAA GGCCT

>Sequence 1400

>Sequence 1401

GGTACTCAATCAGATGTTAAATTCTTCAATGTAAATGCTCTGTCATGCCA

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TCCTACCTCCTGTCTCCCCCACCCCCTCACACACACCCTAAAAGCACTC

>Sequence 1403

>Sequence 1404

>Sequence 1405

ACCTGGCTACAGTAAATGCTCAAGGCCCTTTGTTATTATTTCAGATGGTC AAGAATAAATGTTTTTCAAGGATCTTCTTTTTTGTAGACAACTGTGTAGTC ACAGTTTAGAGTCGTAAATTATCTGCCTGGCAAGATACTTT

>Sequence 1406

>Sequence 1407

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AGCN

>Sequence 1408

>Sequence 1409

>Sequence 1411

>Sequence 1412

>Sequence 1413

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>Sequence 1414

GGTACGCGGGTCAATTA

>Sequence 1415

CCCTTCGAGCGGCCGCCGGGCAGGCACAACCTTTCAGGATGCAGTTCTT
TCATGACCATAGTGTTTTTTTTCCTATTACTCTTTCACTTACTCACAGGA
TTCAACCCATCTGACTCATCTGTTCCTCCCCAGACTCTTCTTGATCTT
TATTTTTTTAATTTACCAGAGAAGAGCAAGCACGTGAGCAGTGAATAACT
TGCAAGGATGCAGACTTTTTTATTTTGCGATGCTACTTTTATAAAAACAA
ACCGTAACATAAATAACTCTTTAATGAAAAACTCAGAAAAATATTAAATCT
ATTCTTAAAAGGGTTTAGAAAAAAATCAAATAGAATTGGCAAATCTTTAAT
GGCATATGAATACTTCTATCACTTAGTAATTAATTTGAACAGAGATGTTA
TTAGGGTCCTTAGTATCACTCCATCCTTTCCCTCCATCTTTATAAAAAAA
AGAACATACAGAAATTTAACAAAGATATAATTGACTTACTCATATGTTTTAT
AAAAAGTATCACCTAGCAGGTGTCTTCCATTTAATCTAACANAGGTTTAT
GTAGCANAAGATACATGAATGAAGCCCTAATCACAGAATCTN
>Sequence 1416

>Sequence 1417

>Sequence 1418

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AGCAGCAAATTGCAAGAGCATCTGTAACTGCTGGGCTAAGGCAGGGACC
CAGGAGGGAGCAAATCCAGGAATGGGGTGGCTCCCCAGGGCCGAGATCCA
GACCTCATTAAACAGGATTTGGTCACGGCCCACTGGATAGTGGGGAAGCC
TGTGGGGTTGTCCATGTGGTGGCTGCAAGCAGGGGCCTGCTTTCTGGGG
GTGCTGGTGGAAATCACTAGACAGTTACCCTGTGGGTGCCTGCAACACTT
TCTGGGCGTTATAAGGAAGATGGCCTCTAGTGTGCTAGTGGAACTCTCTG

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>Sequence 1419

GGTACACATAAGTTCATTCTTGGCTTTTTAAATTTTATGGAAAGACTAAA
TACATTTGTGTCTATTAATCAAAATATGAATTTAGAAGGAAATAATTTTG
TGTAAAAAATTGTATGTGGTAAAATTTTACCTAATTTAAAAATTGTTGTTC
CATAATTTTTTTAAAAAAGAAAAATTACAGAAATAAGACTTGGGGGGTGGG
GGTTGAAAAGTGGTGAAAGAACTAAACAAGTAGAAGAGGATTTCTAAAGC
ACTGGTCTCATGAAAAAAAGTTTCATGTGTGACTGGGTCCACTGAGATTGA
AAAGAAATTGTTTATACGATATTCTAAAAAATTAAATGTTGCTGTCAGGGA
TGACATGATACAGGACCAGAGTCTGTGTAAACAACAAAAGTTTTCTTAAAG
TATTGATACACGCTTTTAAAAAATTGCAAGAGGTTTTAAGTTTAATTCAAA
AATCTGTTTAACAGCCATTTTGT

>Sequence 1420

>Sequence 1421

>Sequence 1422

>Sequence 1423

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 ${\tt GGGGTTCTCTACATGCGGTATGGTTTGTCCTTGGCCCGAACACCCTAGGC} \\ {\tt GAT}$

>Sequence 1424

>Sequence 1425

>Sequence 1426

GGTACGCGCTTCAGGGCCCTGTTCAACTAAGCACTCTACTCTCAGTTTAC TGCTAAATCCACCTCGACCCTTAAGTTTCATAAGGGCTATCGTAGTTTTC TGGGGTAGAAAATGTAGCCCATTTCTTGCCACCTCATGGGCTACACCTTG ACCCCGCGT

>Sequence 1427

>Sequence 1428

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>1.1

>2.1

GGCGGCCGGAAGACCAACCGAGATGAAGGTGAAGATGCTGAGCCGGAATC
CGGACAATTATGTCCGCGAAACCAAGTTGGACTTACAGAGAGTTCCAAGA
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AGCTTTAAATGCTACCAAACTGGAACGAGTATTTGCAAAACCATTCCTTG
CTTCGCTGGATGGTCACCGTGATGGAGTCAATTGCTTGGCAAAGCATCCA
GAGAAGCTGGCTACTGTCCTTTCTGGGGCGTGTGATGGAGAGGTTAGAAT
TTGGAATCTAACTCAGCGGAATTGTATCCGT

>3.1

GGAGAGGAGTCCTTTACTTAGAGTCAAGCTGAAGGAGCATCACAACCCCA
AAGACTGTTATGTTGTGAAATTTAGGCTGTGTTTTAATAATACTGATGAT
GATAGGATGAAATAGTAATTTATTGATTACTATATCTACTATATGTCCGT
AAGATAGCAGGGTCTTTATACTCGGAATCTCATTTGATCCTCATAGTTTT
TATTGGTTATTATTATCCTCATTTTACAGATACAGAAACTGAGGCTTCAG
AGAGGCTGTGTAATCAAGAGTTTGTATGCCTTTCATCTGAGGAGGTTGAG
GACAATCCCAAGTTAGAAAAATAAATGTCTTTAGCATTATTTTTCCTTAA
TGTTTAGAATATTAATAAGTTACTCAGATAATCTATTGGAATTTCTTCAT
GGCAGGGGAA

>4.1

GAGGTACTCAGTTTCCTTATCTATAACATGGGGATAATATTCGTAGCTAC
ATCGTTGTTATGAGGATCAATATCTGTAAAGCTCTTAGAACATGCATTTT
TCTTGTACT

>4.2

CTCAGAAATTAAGGCAAAAAGTCTTACTGACCATGTAAAGGAAATCCAAC AATTATAAACAGTCTCTGCCTTTAAGGAGCTTATAGTCTAGTTAAGAAAC CAGA

>5.1

>6.1

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TGGCATCCCCATTCTGGCACTCCTCCTCTAGGTCTCACCCTACACGCTGGT
TTGTGGGCGGAGGGGCAGGTTGGTGCGTGGGGTGTCCGGGCACTGGCTGT
GCATGCCTTCTTCCTCTTCTGTCTCTTTGGCCACCTTTTCCAAAAAGTCAC
CAGTGACCAATTCTCCCAGTGTTTCTTTGGGACTCAATGCCTTGGGCTTG
GCATTGGGTAAAGCCGACTGGCCAGTTTCATTCTGACCAGCTCTATAGTA
GTCCGGTGTGGACCTCTGCCCTCCCTGCTCTGCGGAAGCTTCCTCAGCCT
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>7.1

CGCGGTGGCGGCCAGGTACGGATCAATTCCGCTGAGTTAGATTCCAAATT CTAACCTCTCCATCACACGCCCCAGAAAGGACAGTAGCCAGCTTCTCTGG ATGCTTTGCCAAGCAATTGACTCCATCACGGTGACCATCCAGCGAAGCAA

GGAATGGTTTTGCAAATACTCGTTCCAGTTTGGTAGCATTTAAAGCTCTT ATATATTCTCGTGGGACCTCAAAAGGATGTAAAGCAGGATCATAGTTTCT TGGAACTCTCTGTAAGTCCAACTTGGTTTCGCGGACATAATTGTCCGGAT TCCGCTCAGCATCTTCACCTTCATCTCGGTTGCTCTTC

>8.1

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>9.1

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>10.1

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>11.1

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ATTGCGTCCGAGGTACCAGGTGTCATTCCTGCAGCAGGATTTAACAGATG CAGATCTGGCCCCAGTGTGAGCATCTGTGTTAATGGTATCAGACTTAAAG AAGGAAAGACCTGATTTGACTGCTGTTGGTTTGGTAGTGTTCCCTGATCC GGAGCCAGTTTTGTGGGAGGGAGTCCCAAAGCAGGTTTGAGCTGTGGTAA TGACCGAGTTGATCCTAGAAGACAAAACAGTAGAATCGT

>14.1

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>16.1

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>18.1

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>21.1

>23.1

>24.1

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>25.1

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>26.1

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>27.1

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>28.2

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>29.2

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>30.1

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Table 3

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>31.1

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>31.2

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>33.1

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>35.1

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>36.1.
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GGCTGTCCCCACTGCAATGTATGGAGAGAGAGAAAGGGATGAAAGTGAA

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Table 3

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>37.1

>38.1

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>39.1

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CTCCCGCGGTGGCGGCCGAGGTACAGTTTAGAAAACTGTGGGGCTGAGT CCTCGGGGCCGTGGGCGCAGCGTGCTGATCACCATCATAACGGCCTA TGGGGATACATTCTCTTAGACATTTTGAAGTAATTAATGCTCTCGTTAGT GATTAAGTCTGTGAAGTAGTCCTTTGCATAATCAAATCCATGCTTTTCTT TGATGCCATTGCGACAAACAGTGTAATTATAGAAGCGAGAATTCTTGATT AATCCAAGCCATTCTCGCCACCCAGGGGGGATGTAGCTGCCATTATATTC ATTGAGGTATTTTCCAAAAAAGGCTGTTCTGTAGCCAGTGTTGTTAAGAT ATACAGCAAAAGTCCGAGGCTCATGCATGGCCTGCCACGAGGGGGAAGAG CAGTTCTCGTTGTTGGTGTAGACATTGTGATTGTGCACATACTTCCCGGT GAGCATGGAGGACCGTGACGGGCACACATGGTTGTAGTCACAAAGGCA

>41.1

>42.1

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>43.1

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Table 3

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AGGTTTTTACCTGATGATTGTGTAGGTTTCTCCTAGCTCCAAAGTATCCG GCTCCTACGACTCTAAATATAACCTTCAAGGAAAGTGGAGCTGGTTTACT CTTTTCTGA

>46.1

>47.1

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>47.2

>48.1

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>49.1

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>50.1

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>51.1

>52.1

>53.1

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>54.1

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>58.1

>59.1

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>59.2

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Table 3

>60.1

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>61.1

>62.1

>63.1

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>63.2

S65 1

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'_-

>67.1
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GTGTGCTTAGACCAAAGGAAACCACCACAGGGATTTCACAGGC

TCCCCGCGGTGGCGGCTCGGGTACTTGACAGGATAAGAAATTACTGTGTC AAATTACCCACAAGTTCTATGCCCATGTTCCAGACCTGTGGCTCTTAGTA TCAGGCTTGTGATAGAGAAAAGGCTGCTATGAATTCTACTCAGTGTGCTT AGACCAAAGGAAACCACCACAGGGATTTCACAGGC

>69.1
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CCATCTAGAACCAGGCGTTTTAGACTAGTGAGACCTTGAAGAGATGGTGA
TGAAATAGTGGATATGCGATTATCATCCAAGCGTAGTTCTTCTATAGTCC
TGGGCAAACCCCAGGGAATTGTGCTAAGGTGATTACGGGACAGGAAAAGC
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CCACACAGTCCAGCAGACCTATATAGTTTAAGGTTTCATGTTGAACAGCA
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>71 1

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ACATATATCATTTATTCAAGAGGCAGATTTTAAACGTTTTTGTAAAAAGC
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>74.1

>75.1

>76.1
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Table 3

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TTAGCCTGG

>79.1

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>79.2

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>81.1

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>82.1

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>83.1

>85.1

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Table 3

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>86.1

>87.1

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>88.1

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SRQ 1

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>90.1

>91.1

>94.1

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>97.1

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>98.1

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>99.1

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>102.1

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>103.1

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>105.1

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AATAATCTTGTGCAAAACCTGAGCTGATTTTCTCATCTATAAAATGGAAA
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AAAAATGTTTCATG

>106.1

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GCATGTGTCATTTGTATCCACACAAGTTAATTATTCTGCTTTTGTTGTAG
TACCTTGGTTGTGAAGCAGAAGCTACCAGGCGTCTATGTGCAGCCATCTT
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>107.1

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GGTAGGTGAATTTTCCAAGTGTTCTTGGAAATAAGGAAACATCAAGAATA
ATGTAAAAGCCTCATATACAATAATGAATAATAAAGAATAATGTGAAGGC
TTCATTCAAGGTTGGGGTTTGCCAGATACATTGCAACAAAATGACAGAGC
AGCCAAGGTATTTAGGATAGTGGCCAAAGGATTGTAATGATGGCTTATGG
AAGTGTCAGCTGGATAAAAGAGTGAAAATGAATAAAAACTAATG

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Table 3

GGTCCTAAAGAGAGAGCTAGGGGAGGTTCAGCTGGCCACAGAGATGCTAA AGGTCAGGAGCAGACTTTTAGGGTTTGCTGTTTTATAGGTTTAAAGACCA GGTCTGTGTTTTGATAACTGAACTTGCTAATAGCTGGCCACTTGAGTTGC TTCTTCCAGCTCTTTGTTTTAAATAAAGAGATTCAGCCAGTAATAA TGGGAAGAGCTGCAAATGACTTCCCCAGTTGGGAGTGCCTGCTTGTTTT CCTTCTGCCTGGGCATGCTGATGTGC

>110.1

>111.1

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>1121

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CTTGCCGTCACGCAGACGCTCCAGCAATTCGCGCGATGGCAGGTCGATCA
GCAGCAGCTCATCGGCTTCCTGCAAGACCCAGTCAGGCAAGGTCTCGCGC
ACTTGCACGCCGGTGATGCCGCGCACCTGGTCGTTGAGGCTTTCCAGATG
CTGGACGTTGACTGTGGTGAATACGTTGATGCCGGCAGAGAGCAATTCCT
GAATGTCTTGCCAGCGCTTTTCGTGGCGGCTGCCGGGGGCGTTGCTGTGG
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>113.1

>114.1

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>115.1

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>116.1

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Table 3

CCAGATCAGGCCGAGCTTGCCGGCGTTTGAGGTCTTCGACCATCGGGCTG **TAGCCGAG**

>117.1

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>119.1

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AACCTGCTATGGC

>123.2

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>123.3

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>124.1

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>125.1

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>126.1

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ACAAAATAGCACTGGAATTATACTAGTGATCATAGCACATAGTCCAAGAA
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>127.2

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>129.1

>131.1

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>132.1

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AAACAATTCCATAGTTTTAATTTCATCTCTCTATCTCT
>134.1

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TTCTTAGCATTTCTATAGCTGAACTTCTTTAAGT

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>137.1

>136.1

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GTCTCCAATGGAGATGGAGAGATTTCTGAGGAGTTTCTTGCTTTGACAT
TCAGTGAAAATGAGAAAAATGCTGCTTACTATGCTTTAGCAATAGTGCAT
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CCCCAACACTCCAGT

>138.1

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GTCAAAGGAGGAGAATTTTTAATGCTATATAAGCATAACTGATAACTGCT
ATTACAAATAAATATTCCACAAATTTGGAAAGTTATTAGAGGAAGAATTT
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AAACAAA

>139.1

>140.1

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>141.1

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CCTCTGAAGATACTGCTCTTCACCCCTCTGAAGGGGGCTCCTCAGGGGAA
GGT

>144.1

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>145.1

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>146.1

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GTTCAAGGCATTGGATTCTGCTTGATTTCTTTTAATTCATTGTTTTTGA
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>147.1

>148.1

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PCT/US00/33312

Table 3

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>150.1

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>152.1

>153.1

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AGGACGCGTGTCGTCCCCAGCGTGTGTTGCCTTATGGTGCCGGCAGAGCC
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>155.1

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CTTGAAAAGACTTCAGTCTCCGCTCCCCTGTTGATCTCATGGAGTGGGGA
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CTCTTTGTTGATCTCATGGAGTGGGGAATTGAACCAGAACTGGA
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ACC

>156.1

>157.1

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>158.1

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ACACAGGACCAATGCTGCCCATCCACATGGAATTTACAAACATTCTACAG
CGCAAAAGGCTCCAGACTTTGATGTCAGTGGATGATTCTGTGGAGAGGCT
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>161.1

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>162.1

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504

Table 3

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PCT/US00/33312 WO 01/42467 505

Table 3

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>172.1

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>173.1

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>174.1

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>175.1

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>176.1

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>179.1

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>180.1

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>181.1

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GAGCGCTTTGTGAACTTCTCCAAATAAGAACAAGGACACACTTGTGTCA
GGTCACGAAGATCATTCAGTTTCCATATGCTGAAGGTTTTTCCACTATTC
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>182.1

PCT/US00/33312

Table 3

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>186.1

>187.1

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>188.1

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>188.2

>188.3

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>189.1

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>193.1 TTTTCTCTTCGCTAACGCCTCCCGGCTCTCGTCAGCCTCCCGCCGG

>194.1

>192.1

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>196.1

>197.1

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Table 3

>199.1

>200.1

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>201.1

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>203.1

>204.1

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>206.1

WO 01/42467

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>207.1

>209.1

>210.1

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>211.1

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>214.1

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>215.1

>216.1

>217.1

>218.1

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>221.1

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>223.1

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>224.1

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>228.1

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>229.2

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>233.1

>234.1

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>238.1

>241.1

>242.1

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>245 1

>246.1

>247.1

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Table 3

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>261.1

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>267.1

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Table 3

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Table 3

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>298.1

>299.1

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>331.1

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Table 3

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>337.1

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Table 3

>341.1

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>343.1

>344.1

>345.1

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PCT/US00/33312

Table 3

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>352.1

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>358.1

Table 3

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>359.1

>360.1

>361.1

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>362.1

>363.1

CTCCCGCGGTGGCGGCCGAGGTACTTAAAACCAAATAAAAAGTGACATT TGAATTTCTTTTAAAAGGATTTCCGAGCTCACAGTCAGCTTGCGAGCCAT TCTCCCGCGTACCAGCACAAACCGGGCCAGCCTCCTAAACTGCTCATTTA CTGGGCGTCTACCCGGGAATCC

>364.1

>365.1

ACCAAGCACTGGGTAAGGCACTTTTGTGGAGCATTAGACAGTAACCCTCA AGGAGCTAGAGAACCGGATGGGAGACATGAGCGGTAATTAACTCACTTGT TCCCCAGAGTTTCTATTTGTTTTTCTTTTTCTGTGACTTATTTTCC TATTTTCTTTCCTCCATGTAATTTTCACTATGGCCCAACTAATATAAACA

PCT/US00/33312

Table 3

CCTGGAAATTACAAGGAAAAAAAATTCTTCCTCTAATAACTTTCCAAATT TGTGGAATATTTATTTGTAATAGCAGTTATCAGTTATGCTTATATAGCAT TAAAAATTCTCCTCCTTTGACTACACACACACACAGTGTGGTTCTAAT CATGGAGATATCAGTAATTTTTAGTAACTGAATTTTGAGGACATTTCTCT GTTTAGCATGTATGCAAACTGATATGTAATCCGGGGTTCCAAAG >366.1

TGAGCTCCCGCGGTGGCGGCCGAGGTACTTTGCATCCTTCAACCCAATC
AAGCTGACACTCAGTATTAACCATCACAAGGCGTGAGGACAGATAGCTGC
ATCCGCAAAATAGAGAACCAAGAAATAGTCCCACACCAAAGTCAGGATCA
AATGATTCCTGGACAAGCCAC

>366.2

TGAACCCCCTCCGTCACCACACACACACGTTAATTTGAGATGGATTGCA AACATAAAAGCTAAAACCATTAACACTTCTTGAAGGTAACATAGAATATT TTGTAATGTTATGATAGGCAAAAGTCTCTT

>367.1

CAATGTGCCAGGCACCTTACAAGACACAAATATGCTCTTATAGGCTGGGG AAATAAGAAAATATGAATGAAGCAACCCAGGTCTTGAGCCAAAGAATTAC CTGGGGTCCGTTGAGTTCAAATCTGAAAATTTCTGTCTTTCAAGGTCAGC ATCGCCCACAAAC

>369.1

>370.1

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>371.1

>371.2

AGAAATCTACCTGGACAGAATAGCATCTTTTTTTTTCCCCCTGACCCTTG
GCATTTCCTCTCCCCAACTTCTGCCTGATCCTAGGATGGAC

Table 3

>372.1

ACGCGGGGATGTCTCTTGTCAGCTGTCTTTCAGAAGACCTGGTGGGGCAA GTCCGTGGGCATCATGTTGACCGAGCTGGAGAAAGCCTTGAACTCTATCA TCGACGTCTACCACAAGTACAAGAGATAGAAAGACCAGTCCTTGCTGAAA GACAAGTCTGAATGCTCCACTTTTTCAATTCTCTCCATTCTTCAGTAA GTCAACTTCAATGTCGGATGGATGAAACCCAGACACATAGCAATTCAGGA AATTTGACTTTCCATTCTCTGCTGGATGACGTGAGTAAACCTGAATCTTT GGAGT

>373.1

ACGCGGGAGAAGGAATGGAAAGCCTGGAGAAAGAGGATGAAATGACGGA TGAAGCAGTTGGAGACTCTGCTGAGAAGCCTCCTTCTACTTTTGCCTCAC CTGAGACTGCTCCAGAAGTGGAGACCCAGCAGAACTCCACCAGCCTGTGAA ACCACGAACCCTTCAATCAAGAAAAGACCTTTGATCAGGAGAAGACTTCT CGTCTCATTTCTGGGGACACATTCAGGATTTCTCCAAAGCAGGTGAAGGT >374.1

GGGTGGCGGCCGAGGTACGCGCCAGTCACTAGCAGGTCCTTGTGAATCTC
CTCACGAGGCACTTGCGAGAGTTAATGGGCAGATGGAAGGAGATGGCAA
GGACCAATCTGGGGCCGAGCAGGAACAAAAGCAGCAACGCTAACGGAAAA
GGGCCGCGCGGGCTGGTGGGCCAGACAAACCAGACATGGTGCTCCCCGC
GTACTCCTTATACTTATTAAACACAAAATTAATTGTAAAATAGCCTCAGG
CAGGTCCTTCAGGAGGTATCCAGAAGAAGCATTGTGATCATAGGAGCTG
ATGGCTCCGCCTGGGTTACTGCCCCTGTAGACTTCCAGTGGACAGGATA
TGGAGGTGGAAGACAGTGACATGGATGATCCGGACC
>375.1

CGGGTGGCGGCCGAGGTACCTCAGCTGTTGATCTGTGGAGCCTAGGAATC
ATTITACTGGAAATGTTCTCAGGAATGAAACTGAAACATACAGTCAGATC
TCAGGAATGGAAGGCAAACAGTTCTGCTATTATTGATCACATATTTGCCA
GTAAAGCAGTGGTGAATGCCGCAATTCCAGCCTATCACCTAAGAGACCTT
ATCAAAAGCATGCTTCATGATGATCCAAGCAGAAGAATTCCTGCTGAAAT
GGCATTGTGCAGCCCATTCTTTAGCATTCCTTTTGCCCCTCATATTGAAG
ATCTGGTCATGCTTCCCACTCCAGTGCTAAGACTGCTGAATGTGCTGGAT
GATGATTATCTTGAGAATGAAGAGGAATATGAAGATTGTTGTAGAAGATG
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AAAGGAAAATCCTGGCAGAG

>376.1

TGAGCTCACCGCGGTGGCGGCCGGACGAGAGAGAGGTGCTGTGCTGTA
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TCACCTTTTGCTTGGAAAGATTTACTAAGAAGTCAAATAGTGGGTTCCTT
AGAGGGAAGAGGTTGGAAAGAACCATGACTGTATTCAGGAAGGCACATGA
ACTGAAGCTTCTGTCAGAATGCCAATACAAGCAGTTGAGTGTTTCGTTGC
TGTGTTATAACTTCCTGAGGGAAGCTCTGGAAGTGGCAGTAGC
>378.1

PCT/US00/33312

Table 3

ACAAACACGAGCTTTCTTGTTGACTTCTAACTTTTCAAATCAAAATCATT TGGTTGAAACAGACTGTTGCTTGATTTTAGAAAATACACAAAAACCCATA TTTCTGAAATAATGCTGATTCCTGAGATAAGAAAGTGGATTTGATCCCCA GTCTCATTGCTTAGTAGAATAAATCCTGCACCAGCAACACACTTGTAAA TTTGTGAAAATGAATTTTAATTTTTCCTTTAAAAAAAGAAATTTTT >379.1

AGCCAGCCAATAAAATATAAACTCCATTTGTCTTAGTTATATAGAACTGT
GTTTCCAGCTTAGAAAAAAGTCAAACCAATGACTTGTAGAACAATCTACTC
TCATTTTTTATTCAGCCTCTAGAACATGGAAGCTTTAAAAGTGAATTGGC
TAAATAGGCAAGACCTTCTGAAAGTTAACATCTTAATGATTAAAAACAGT
AAGTACGCACAACCGAAGCGTAGAGTCACACTTGCAACAAAAGGTTACAA
TATTGTAATGGGCTCTGTCCGGTTCTGCTTGTCCAGCTGGACCATCTATT
TCATCCTCCTCCTCTGAGCTGTCATTTAATTGCTCATAACAGTAGAGATC
AGTTGTCTCTGGTTGCAAATCTAACATATTTATGCAATGTAGGGTGTT
CTCCATGCATGATTACAGCTGGGTTTCTCTACGTGTTCTTGATGATCTGC
AACAAGACATACCTCGACCGGGCCACCGGCCCCTTATATTATGGAATCTT
TGCTTTTTGGCCAGAGGTCTTTGCTTTT

>380.1

GAGGTAGGTTAGCTCATTTTCCCTTAAGCGGGTTGTGACGTCGTTGAAAT TGCAACGCTCAAACTTCCAACACTTGGTATACACTTGTAACCCAGCTTTG TTAATGAGACACGCATCAAAATCAGATGAACAATTGACGGCTGTTTTGCA GTCAGCAGTTGGGTTAGGACAGTTGTAGCACTGCAGGCTATGTCCTGAAT G

>381.1

CTCACCGCGGTGGCGGCCGAGGTACACCATGTGAAGACTGGACTTAAACA GCTACACCACCAGATGCCGAGAGAGAGGCTGGAACATAGCCTTCCCTTTG GAGGTAGCCTGGCCCGGTGGGCACTGTGATCTCAGACTTCCAGCCTTCAG AACTGTGAGACAATATTTTATTGTTTAAGCCACTTATTTTTTTGGT >382.1

ACTACATGAGTAATTGCATAAATGGACGATGTCTTTCCTCTACTTTTAATTTCCAATGACT

>383.1

>384.1

>385.1

TCGCCCGGCAGGTACTCCCTGATAAAGGGGAATTTCCATGCCGTCTACA GGGATGACCTGAAGAAATTGCTAGAGACCGAGTGTCCTCAGTATATCAGG AAAAAGGGTGCAGACGTCTGGTTCAAAGAGTTGGATATCAACACTGATGG

Table 3

TGCAGTTAACTTCAGGAGTCCTCATTCTGGTGATAAAGATGGGCCGTGGC AGCCCACAAAAAAAGCCATGAAGAAAGCCACAAAGAGTAGCTGAGTTACT GGGCCCAGAGGCTGGGCCCCTGGACATGTACTCTCAGAATGTTTGTCATA TGCTTCTTGCAATGCATATTTTTTAATCTCAAACGTTTCAATAAAACCAT TTTTCAGATATAAAGAGAATTACTTCAAATT

>386.2

GAGTAATTCAGAAAAACTCAAGAATTTAAGTTAAAAAGTGGTTTGGACT TGGGAACAGGACTTTTATACCTCTTTTACTGTAACAAGTACCTCGGCCCG CTCTAGAACTAGTG

>389.1

>391.1

ATTCAGCTTCACTCAAAAGGGCGGTAATTACCGGTTTATTCCACCAGGAA TCAAGG

>392.3

AACCCGTTAAAAAAGGCCCGCGTTGCTTGGCGGTTTTTTCCATAAGGGCTCC

>393.1

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>395.1

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AAAGTGAAAAGCATTTTACAAGTAGAAGAGGCAATGAGAAATAAGGCAAC AGATAATACGTCAAAGCTGGAACAAGGGCAGAATCAGAACGTGTCTGGCT ATCAGCTTTGTTTTTGACTACTAAGGCCAACCTTTTTATTCCTCTGGATG GTCTGCAGACCAAGTTCAGAATTTAGGCAAAAGGATTTCCAAATGGATCC CTATACATTTTCAGAAGATTCAGGTTGAGGAAGAAGCCACAGAGGGCTTG TGATGAACCCAAAGGAATCTTTAAAGAAA

>396 1

TGGCGGCCGAGTACCGCGGGAGCTTCTCCTTGCCAGTTTTTCCCAGCAGG ACCCTCTTCTTGTTTTGAAAGATGGTCGGCTGCTTTTGGTAGGCACGCTC AGTCTGAATGTCCGCCATCTTCC

>397.1

ACCCTCTTCTTGTTTTGAAAGATGGTCGGCTGCTTTTGGTAGGCACGCTC AGTCTGAATGTCCGCCATGTGTCC

>398.1

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ACAAGAGACCCAGGTGCCAGCATGTTACTACCAGATCCAGTTCTTCTTAG
GACAGTGTGGCTCAAAGGGATGAGACCTTCCAGACACTGGTATCTGAGCA
TCTGGGCCTGCCCCTGAGTTGTCAAGAAATTTCTTATCTCTGAAGGAGTC
CAGACAGGAATGCTTCCACTGCTGGGTGGGTGCTCGCCCCTCTTGCTCCT
TAAGCGCCCGGCTCACCCCCTTGCTAGCACAGGGTGTCTTACACAGTTTA
TGGGACTTTTCTGTGAACTACCTGAGGGCAAGAACCATGTCCCACTCCCT
GCTTGCTCCTCAAATATTTTATAGGAAAGCAGTCCACAGTCTCACACAGA
GGAAACATGAAGTTTAAGTTCTAGCCCTATG

>399.1

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ATTTTCTTTTTAGGTCCAGGAGTAAGATATACATACGAAAATGAAAAT
TATAATTCTTCTTGGATTCCTGGGAGCCACATTGTCAGCCCCACTTATCC
CACAGCGTCTCATGTCTGCCAGCAATAGCAATGAGTTACTTCTTAATCTT
AATAATGGTCAACTTTTGCCACTACAACTTCAGGGCCCACTTAATTCATG
GATTCCACCTTTCTCTGGAATTTTACAACAGCAGCAGCAGGCTCAAATTC
CAGGACTCTCCCAGTTCTCTTTATCAGCTCTAGACCAGTTTGCTGGACTG
CTCCCAAATCAGATACCCTTAACAGGAGAGGCCAGTTTTGCCCAAAGGAG
C

>400.1

>401.1

GCGGCCGGTTGACCTTGTATGTCACGAGCAATTAGGAGAGTCAGAGGATG
AAATAGATGAACCCGACCATGCAGTTAATCACCAACATCAACTACTAGCC
AGACGGGATGAACCACAGCGTCACACAATACAGTGTTCCTGTTGTAAGTG
TAACAACACACTGCAGCTGGTAGTAGAAGCCTCACGGGATACTCTGCGAC
AACTACAGCAGCTGTTTATGGACTCACTAGGATTTGTGTCCGTGGTGT
GCAACTGCAAACCAGTAACCTGCTATGGC

>401.2

TATTGGAAAACCTTACTTTTTCAATGAGCATTTTTGCATCAAGGGGTAA CAGGGACATTAGGCTTTTTTT

>402.1

ACACATATCCTCTGTGGGAAAAACTGCTCTCAGAGTGTGCACTCTCCCCA

Table 3

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AAACCTTTAGCCGAAGTTCTTATCTTGTTCGGCATCAAAGAATCCACAC
GGCGAGAAGCCTCACAAGTGCAGTGAGTGCGGGAAAGGGCTTTAGTGAGCG
CTCCAACCTCACTGCCCACCTACGAACTCACACAGGGGAGAGGCCCTATC
AGTGTGGGCAATGTGGGAAAAGCTTCAACCAGAGTTCCAGCCTCATTGTC
CACCAGAGGACCCATACCGGGGAAAAGCCTTACCAGTGCATTGTCTGTGG
AAAGAGATTCAACAACAGTTCCCAGTTCAGTGCTCACCGGCG
>403.1

>404.1

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>405.1

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GTGCTCCTTCTACTTATGTAAAAAAAAAGTTACCTCAGGGAGGTCCTTCC
TGAGGTCTTCCAGCACACGGCATTGTTATCATAGAAAATGACAGCTCCAT
GTGTGTTACTGGCCATTACCACCTTCCAGTGGGAAGGATGTGGAGGTGGA
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TTGTGTCTTAGC

>407.1

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GGCATCCAACTCTTTTACCAAACTTAAAGTTTTTTTCCGATTCAGTCGCC
TCATCTTCAGGAAAACCTTCCTCTCCTTCATATAGTCATGCTTGTGTTA
TGGTCCCAGCCTACCGCCATGTTTTACAGAAGCCCGGGTCGCCGGGGCTC
CCGCGTACCTGCCCGGGCGGCCGCTCGAGGCAGGTACTGAATGACACATT
ACCTCCACACTCTCCCGGACTAGGTGGTCAACAGGGCCACAGGGTTGCTT
TCTGTCTTTGGTGGGGCAGGGGAGTTGACAGGGATGAGGGTCCAAGGAAT
TAGCATGAATGACAAGATAACAAGGGAAAGAGTTAACCCTGTCACATAGT
AGGTTAACTTTTTTCAGGGTTT

Table 3

>409.1

GGGCAGGTACTGTGCAGTAGTAACCATAATTCTAAATGAGGATTATGGAT TTTTCTGGAAGATTCTTTTTTCCTGTGGAACATGATGAGAAATGTTTAGG AGAGGGGACATAGCCATTTTTGTATGAAGACCAATTC

CACACTCACACACGCATGCACACATGCACGCACAACTTCACTCTATATTT ATTCT

>411.1

>412.1

GCCGGCAGGTACTAGAGTTTTCAAGTATGTTCTAAGCACAGAAGTTTCTA
AATGGGGCCAAAATTCAGACTTGAGTATGTTCTTTG
>412.2

GTGAATTTTGGCACAAAGGAGTGACAAACTTATAGTTAAAAGCTGAATAA CTTCAGTGTGGTATAAAACGTGGTTTTTAGGCTATGTTTGTGATTGCTGA AAAGAATTCTAGTTTACCTCAAAATCCTTCTCTTTCCCCAAATTAAGTGC CTGGCCAGCTGTCATAAATTACATATTCCTTTTGGTTTTTTTAA >413.1

>414.1

GGCGGCAGGTACGCGGGATCCAAGATGAAGTGCAGAGAAAATAAAGAATC CAAAGTCATAGTCATGAGGACAGAAT >415.1

AAAACCAAGACGAAGCCACTACAGCCCCGCGTACCTGCCCGGGCGGCCA AAGGCCAACAAGGCAGTGGG

>416.1

TCACCGCGGTGCCGACGTACGCGGGGCTGCGAGGACCGTGGGCAGCCCAGGGTCGGTGAAGGATCCCAAAATGGCTGGGCGAAAACTTGCTCTAAAAACCATTGACTGGGTAGCTTTTGCAGAGATCATACCCCAGAACCAAAAGGCCCATTGCTAGTTCCCTGAAATCCTGGAATGAGACCCTCACCTCCAGGTTG

>418.1

>419.1

CGCGGTGGCGGCCGAGGTACAGTATATTGACCTTAAAAATCAGTAAAGCA GTCATGGAAATAACAGGTCGTGTATTATTCATGGGCACAAACTGACTCAT GGCTGGGGAAGAAGCAGCCACCTTAGACCAGATGGACAAGCCAGATACTG CAGAGAAGTTTCTGGGCTTTT

>419.2

>420.1

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>421.1

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CTCGCTACAAGCCAATGACACTTTCAACAAACAGCAGTGGCTTAACTGTA
TTCGTCAAGCCAAAGAAACAGTTTTGTGTGCTGCCGGGCAAGCTGGGGTG
CTTGACTCCGAGGGATCGTTCCTAAATCCCACCACCGGGAGCAGAGAGCT
ACAGGGAGAAACAAAACTTGAGCAGATGGACCAATCGGACAGTGAGTCAG
ACTGTAGTATGGACACGAGTGAGGTCAGCCTCGACTGTGAGCGCATGGAA
CAGACAGACTCTTTCTGTGGAAACAGCAGGCACGGTGAAAGTAACGTCTG
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>422.1

>423.1

ATTAGACAGGGGAAGTAAAATTATCTTTTTGCAGATGATATGACTTATA

>424.1

TGGCGGCCGAGGTACTGCCGTAGCCGCTCCTCCCGCAGCTGTGCCGCCTC
CTTGTCCTCCTCATTGTCACTGCCAAACAGGTCAATGTCATCATCCT
CGTCATCCTCTGCTGGTGTGGCTGGCTTCCAAGCTGGTGCCCGTGGGCTA
CGGTATCCGGAAGCTACAGATTCAGTGTGTGGAGAGACAAAGGTGG
GGACAGACTTGCTGGAGGAGGAGATCACCAAGTTTGAGGAGCACGTGCAG
AGTGTCGATATCGCAGCTTTCAACAAGATCTGAAGCCTGAGTGTGGGT
>425 1

>426.1

TGGCCGCCGCCCGGCAGGTACTGAATGTGGGAAAGCCTTTTGCCAGAA
ACCACACCTGACCAACCATCAGCGAACACATACAGGAGAAAAACCCTATG
AATGTAAGCAATGTGGAAAAACATTCTGTGTGAAGTCAAACCTCACTGAA
CATCAGAGAACACACAGGGGAGAAGCCCTATGAATGTAATGCATGTGG
GAAATCCTTCTGCCACAGATCAGCCCTCACTGTGCATCAGAGAAGACACA
CAGGGGAGAAACCTTTTGGATGTAATGAATGTGGGAAAACCTTCCGTCAG
AAGTCGGCCCTAATTGTTCACCAGAGAACTCATATAAGACAGAAACCCTA
TGGATGTAATCAATGTGGAAAATCATTCTGTGTGAAGTCAAAACTCATTG
CACATCATAGAACACACACAGGGGAGAAACCCTATGAATGTAATGGTTGT
GGAAAATCATTCTATGTTAAGTCAAAACTAACT
>427.1

GGCCAAATGCAGAAACGTCCCACATGCCCACCAGGAGCAAGCTTCAAAAT GTTCAGCTTGCGGGGCA

>429.1

>430.1

CAGCAGAACTTTGATGAAGATTGAAAGGGACTTTTTTATATCTCACACTT CACACCAGTGCATTACACTAACTTGTTCACTGGATTGTCTGGGATGACTT GGGCTCATATCCACAATACTTG

>432.1

>433.1

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>433.2

GCAGTCATGAAGCTGGCAAATGGCAGAACTGGAGCTAGAAACTGCTGACT CCCTTTATCTTTTCCATAGCACCCCAAGCCTAAAACCAGACTGGCACAAA T

>434.1

>435.1

ACGCGGGGGTTGCTCAAACCGAGTTCTGGAGAACGCCATCAGCTCGCTGC TTAAAATTAAACCACAGGTTCCATTATGGGTCGACTTGATGGGAAAGTCA TCATCCTGA

>436.1

GGCGGCCGAGGTACGCGGGGGAACACCACCCAGTGTGGAGCAGCCCAGCC

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542 Table 3

GGAATAATAAGTGAGGGGTAGATCTGCCCATAGAGCTCACTTTAGACCGG CCTATACTCCTACAAAGAATTGTGGTAGGATC >437.1

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AGGAGGAATTAGTGGATCCCCTAACAACAGTGAGAGAGCAATGCGAGCAG TTGGAGAAATGTGTAAAGGCCCGGGAGCGCTAGAGCTCTGTGATGAGCG TGTATCCTCTCGATCACATACAGAAGAGGATTGCACGGAGGAGCTCTTTG ACTTCTTGCATGCGAGGGACCATTGCGTGGCCCACAAACTCTTTAACAAC TTGAAATAAATGTGTGGACTTAATTCACCCCAGTCTTCATCATTTGGGCA TCAGAATATTTCCTTATGGTTT

GTGGCGGCCGAGGTACTCTGTGATTTCACCTAGATTTGGAGAAGGTGAGG GAGGAAAGGCTGTCCTTTGATCCCATACCATGCAGGGCAAATGGCTG

GGCGGCCGAGGTACGCGGGATGTCTAAATATCTTGTAAAAAGTGTTAAAA TAAACAAACCCAGTCAATTAAAAATTTTGACTGTTATTGAGAAAACTCC

GCGGCCGAGGTACATTGTAGCTTTGAACTCAGTGTTTAAAAATTCAATCT GGTTACACACTCTATCTTCTAGATCCCTTGAGACACTGTCTTCCTTGAAT AAGGGCCAGGTGAAATGGCATTTCAGCTGTGGAAGGATTTTCTCCAGGGA ATTCTTGGTGACCTCACTCATGACTGCCCTCTGTGTCTCTGCTGTTCCGA AAAGCTGGTGACCAGGCTGATTTGTTCTTCAGAAGTCTTCCTGTCTGCCC CCGCGTACTGTTCCTGCAGGTTAAGGCAGGACTGGAACTCCTCCACAGCT TGCACATAGTTTTCAGATTCAACACTAACTTCTCCGAGTTTAAGATGTGC CTGGGCAGCATAAAGCTGTGCTTCTTTTGTTTCTTGCCTTTTAAAAATGA TCTTTGCTAAATCCAGCATATCCCAGGCAAGCTCTAGGTTCCCAATCTCC TCCTCCTCATTTTCTTGAAGAGACTTGTTTTCAAGGACTGAATCATTTGG CATTTCTTCAGTCTTATCATTTTCTTTATCATCCTCTTCCGAGCCTTCAG TITCTTCACCCTCTTTCATCTGGTCTTCTCTCTCTTGGGGGCTCTTCATTA **GCAGCTA**

>442.1

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>443.1 CCCGCGGTGGCGGCCGAGGTACATGAGAGACACTTTAAGCAGGCTCACAG GAATAGAGTGAGTGCGGACTCAGATTGTTTAAGCTATCTCTGAACCCATT CCTACTGCGTTTAACTATTTTATTGGTTTCTAACTACTACCACAGACACG GATACCTCACAGGTTCCATTATTACTCACAGCGTTGTGGTCCGGGTTCAT CGCCATCCTGCTCCACGCTGTCATAATCCTCACGCATCCGCGCTCGGGAC CCCTCTTCTATAAGGGACATACACGAGATCACCGAAAACTCCTCCTTTCT CCCATTGTTCCTATGAGGTGGGTGGGGACTCCAAAACCCGTAGCTCCTGC CCTACTAGGCCACTCTACCCCATT

>444.1

CCACCGCGGTGGCGGCCGAGGTACCCAGCCCCACCCAGGCAAACAGCTCC

Table 3

GACATGTTTCGTAAGTGAGACAAGCCAGTGCA >444.2

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GTCACTAAAGATTCATTTTTGTTGAGTCCTTATGAGAAACAGCAGTATGA
ATCTTGACGGTTTCTGCCCGTCCTAATGGCAGAGCTCTCTGACTTGGGTG
TATGCTACCAGGCTGGGTTCAAGTGAGAAGTTCTGGTCAGTCTTCTGTGG
GTTGAAGGTTCAATATCAATTCTGTTTCAAAGCCTTTGTGATGCTATTTG
AATCTTTGCTCGGTATATGCCACCCAGTGGTCAGTCTGGGACCTAGGTGG
TGAGCTATCCCATAGTTCATTCTCAACGTCTTTACTGCACTGTTTAGGGT
CAGATACACATATATATACAACTTTGGGTGAGCTCAGGAGTTTATAAGCT
TTATGGGCTTGGTGTTTTGATTTATAAACAGGAGTTTATAGAACTTTAT
>446.1

GCGGCCGAGGTACGCGGGGAGACACAACTTCCTGGGCTTAGATATTTCAG

>446.2

TTAGTTTGTTTTCATGCTGCTGATAAAGACATACCTGAAACTGGGAACAG AAAGAGGTCTAATTGGACTTACAGTTCCACATGACTGGGGAGGCCTCAAA ATCACGGTGAGAGGTGAAAGGCACTTTTTACATTGGCAACAAGAGAAAAA TGAG

>447.1

>447.2

CGAAAGCATCTTGAGAGGAACAGAAAGGATAAGGATGCTAAATTCCGTCT GATTCTAATAG

>447.3

GTTTTGGGCTTCCGATATTAATAAGACCAAGCTGAGTCCTCCCCAAT TGGAAATATGAATCATCTACAGCCTTCTGCCCTGGTCGCATAAAATTATG TCTGGTGTTCTCAAGGCAATTAATAATGATTGTTTTAACACCAACAA >448.1

>448.2

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ATGGGATTTTGGAAATCAGCTTCTGGAGGAATGCATGTCACAGGCGGGAC
TTTTTCAGAGAGTGGTGCAGCGCCAGACATTTTGCACATAAGGCACCAAA
CAGCCCAGGACTGCCGAGACTCTGGCCGCCCGAAGGAGCCTGCTTTGGTA
CCTGCCCGGGCGCCGTCGATCTCCTTGTGTTCAAGCAACTTCTTGCGGT

Table 3

AGTCCTGAAGCGCCTTATCTCTAGGGTCCGCCATGATGAGAACCCCGCGT >450.1

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TGTGCTGGCAGCGTGGCTCACATGGCCTGTCTCACTGTAACCACAGGC
TGGGATGTAGCCAGGACTTGGTCTCCTTCCCGCGTCAAGAGATAGAAAGA
CCAGTCCTTGTGAAAGACAAGTCTGAATGCTCCACTTTTTCAATTCTCTC
TCCATTCTTCAGTAAGTCAACTTCAATGTCGGATGGATGAAACCCAGACA
CATAGCAATTCAGGAAATTTGACTTTCCATTCTCTGCTGGATGACGTGAG
TAAACCTGAATCTTTGGAGT

>451.1

GAGCGGCCGCCGGCAGGACAAATGAGTTTAGAAATGTTGTATAAGGCTG ATCTGGACCCAAACTAAAACAA

>451.2

>452.1

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AAAGCCAATCAGTGTCCTTTTTGTCTTTTTTACATAAACTTTTACTACA
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GTTTCATTTGGTTCTATATTATGTATACATAATTTATCTATTATATATTT
ACATTAAAATATATGCATATATAATGGATTTAATTTCCTTTTGGCACCCC
CATATCTAGAAGTCTCTTCATAAATTAATAAATAATCTAGGGCCAGCATT
ATGTTTGCTAGACCTGGATTTGGCTCAATACTTAAAGTTAAAGTTTCTG
TCTTTTTCTTGGACTTGAAACTGCCTAGAGCGTCAGTCTCTCTGTTATT
TTTTCTATTTTCTTTTTCCCCCATCAGTCTTTTAGCCACTTGAAGCCAA
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>453.1

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AGAAAGAAGCCATATACCCTGTGTAAACAAATGAATATGGCTGTGTGCCA
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PCT/US00/33312

Table 3

GCGCCGAGGTACAACATGACATTTITAACCAATCCAATCTAAAAATGTG CCAGAATCCACCTGTGGCCCGAATCGTGTTTGGTTCCTCTTTCTACTCCA CTGCAGATGACCAAACCTGTCCCGCTGCCACTTTCCTCACTGATATTGGG AGGAGGGCAAGGCCCAGCCGAAGTTCCACTAAAAATGCCCCAGGAGAATA GGCACCGGCTGGCTTGCCAAAGGGTTTGGGTTTTATTGCTTTCTGTTTTT TCTTTTCCCGACAGCACAAAGAAGTAAGGGCAGTTATTGGACAGGTGTTA TTTAAACATTCTATTGTAAATGAATGTGTTGTTTTGGTTCTACTGCATTGT GGAGCATGCGGGGGAAGAGAACTGACCCAGGTAATGAA >458.1

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CTGAGCACGCTGTGTCAATGGAGATGGCCTCTGCTGACTCAGATGAAGAC
CCAAGGCATAAGGTTGGGAAAACACCTCATTTGACCTTGCCAGCTGACCT
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>459.1

>460.1

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GCGT

>460.2

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Table 3

>462.1

>463.1

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>464.1

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>465.1

>466.1

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>468.1

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<u>></u>470.1

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AG

>473.1

>473.2

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>474.1

>475.1

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>477.1

Table 3

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>481.1

>482.1

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GATTAGCAGCATGATATCAAAACGCTCTGAGCTGCTCGTTCGGCTATGGC
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>483.1

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TG

>485.1

Table 3

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TTGCAAGAAAGTCCATATAATCTTATTCCCCCCCAAATATAATTTTATAC
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>489.1

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>490.1

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>492.1

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>492.2

Table 3

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>503.1

>504.1

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>515.1

>516.1

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>517.1

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>520.1

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>521 1

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>523.1

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>524.1

>527.1

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>538.2

>538.3

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>542.1

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>543.1

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>546.1

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>549.1

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>549.2

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>552.1

>553.1

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Table 3

>555.1

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>557.2

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>559.1

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TTGCAGCTGGGAGCGGACGAAGCGCGAAGCTGGGATTTTTTACTGTCTCC
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>560.1

>561.1

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Table 3

>564.1

>563.1

>565.1

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>566.1

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TGCTTTGCTGAGAGTCTCTGTCCTCTGCATCTGGATGAGTGCACTTTTCC
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GTTCCAAGTGGGACAGATACTGGAGATCCTCAAAGTAAGCCCCTCGGTGA
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CTGACTG

>568.1

>569.1

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>571.1

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GCCTCTACTTCCTCTGATAAAAATGTTGGGAAAACACCTGAATTAAAGGA AGACTCATGCAACTTGTTTTCTGGCAATGAAAGCAGCAAATTAGAAAATG AGTCCAAACTATTGTCATTAAACACTGATAAAACTTTATG

>573.1
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GCAAC

Table 3

>576.1

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>578.1

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CGCTCTAG

>579.1

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>582.1

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>584.1

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>585.1

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TGGACAGGGAAGACCAACGACTGGATCCTTCCCTCAGACTATGATCAT `GCAGAGGCAGAAGCCAGGCACCTGGTCTATGAATCAGACCAAATCAAGGT TTTTTGCTGTCCAAGGAGGAGATCGCTGACAAGTATGACTTATTTGTTG GCAGCCAGGCCGCAGATTTTGGGGAGGCCTTAGT

>589.1

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>591.1

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>592.1

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>594.1

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>594.2

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GGGCAGTCTCAAAACCCCAGCTCAAAATACGACACTAACATGATGAACAT
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CTGTCCAATAGAACTTTCTGTGATGATGAAAAGATTCTACTTTTGA
>595.1

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CACTITITITITITITITITITITITITITITITITAGGTTACTCTGATGTTTATTTTA
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CAGTTGGTGGCCAATACAAGTCATTGCCAGACAGTCCTTGGAGGCACAGA
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CCAACAGGACCTGCCTGACAACCCCGAGAGGTTCAATCTGTTTCCCTGTG
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>599.1
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>600.1

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Table 3

AGAGCTATGGAGGTGGCATGCGACCCCCACCCAACTCCCTCGCCGGCCCA GGCCTGCCTGCCATGAACATGGGCCCAGGAGTTCGTGGCCCGTGGGCCAG -CCCCAGTGGAAACTTCGATCCCCTACTGCTTCTCATCCCCCGGCAGCTAC ACCGGACCCCAGGAGGGAGGTGGGCCCCCTGGAACACCCATCATGCCTA **GCCCTGGAGATTC**

>601.1

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CATCTGCGTGGGCGGCCAAGATCGGAGCAGCGACGCTGCGGGCTACCCCC ATGCCACCCATGACCTGTAGGGACCACCTCTAGATGCCTACTCGACTCAA GGACAACACCATGTCTCCGCTCGATCTGGCCAAGCTGAACCAGGTGGC AAGACACCAGTCTCACTTTGCCATGACGCACGGCGGGACCGGATTCGCCG GAATTGACTCCAGCTCTCCAGAGGTGAAAGGCTATTGGGCAAGTTTTGGA TGCATCTACTCAAACCACCCATGAACTCACCATTTCCAAAAAACTTAATT **GGCTGCATAAATCGGGCGCCAAG**

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>604.1

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Table 3

>607.1

>608.1

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GAAAATAGAAATAGTGCAGTTTGCTAGCCGGACACGCCAACTCTTCGTTC
GATTATTAGCTTTAGTGAAATGGGCTAATAATGCTGGCAAAGTGGAAAAA
TGTGCGATGATTTCAAGCTTTTTAGATCAGCAAGCCATCCTGTTTGTGGA
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>609.1

>610.1

>613.1 GGGGAAAGGAAAGCTAACTCCACGTCTGTTCCAAAGGCCTCTGCTGGTAT TTACTTTACGAGAGGCCCACCTTATCCAAAGAGCTATATGCCCTGGGGGG CCTTGATGGGCTTCACACAGTACCTGCC

>614.1

Table 3

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>615.1

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GAGGTACTGTGCCCTCTTTCTTCACTAGGTGACCAGAGTGGTTTTGACTC CTGTGGTGCTTGAAGTCATTCTCAGGGGTCTCTATGACCTTTTCCCTCCT GCAGTTCACTCTAGTTTCTTCTATTTCATCATCCGCACTGCTCTTAGCAT CGAAGTCACTGTCTGCATCTGGTTCTCACTTTCACATCAGTTTGAAGAA TGCATTTC

>617.1

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>617.2

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>618.1

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CTTCCTAATGCACAGAGTATGCTCAGGCTGTGACATAGGAA
>619.2

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TCCTTATTCTCAAAGTTCTTTTTGTTTGCAAACCCTTTTTTTAGTAACCT
GCAGAGGTATAAACTGATTGTGCACACCCCCTGGTATTCCCCAGCCATG
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>621.1

>620.1

PCT/US00/33312

Table 3

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>622.1

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TCT

>623.1

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>625.1

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TGCCAATGAGGACCAATCGATTTGTTCTCTCAGTGTCATCCTTCCAGCTC
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>626.1

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>627.1

>628.1

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>631.1

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>632.1

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>633.1

>634.1

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Table 3

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>637.1

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Table 3

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>656.1

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Table 3

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Table 3

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Table 3

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Table 3

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Table 3

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>699.1

>699.2

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PCT/US00/33312 WO 01/42467 575

Table 3

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>720.1

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>723.1

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>725.1

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>727.1

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AGGACCTGGGGCAGCTGCTGCTTCTTTCTTAGTTCTCGACAGACCACTGA
GTGCAGTTTTTCTAAATCTTTTCCCCACTTTGATATGTGGTCCATAAAAC
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>728.1

Table 3

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>730.1

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>731.1

>732 1

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>734.1

Table 3

>736.1

>737.1

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GATGGTTCACAGGTTGTATTTGGCTGTTACATCTTTTTAGTTGTTATCCT
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TTTGAGGAACCGGGGCTGGATGTGGAGCATTCTCCATTCATCTGATTGTT
TCCATGTGACCAGATTCGGGTCACAAATTTCTGGCAAGAACCCTTCACAG
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TGGGAAATT

>740.1

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>743.1

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TGTGACAATGCAGTCAGCCACAGTGACGGAGTGCAAGATCGGATCACCAC
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GCCTCATGGAGGTGGAACCGTGCTACGCAGTTATGGCTTCACTACTGAAT
GCGATCTTGC

>744.1

>745.1

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>745.2

>746.1

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>747.1

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>748.1

>752.1

>753.1

>754.1

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>755.1

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>757 1

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>760.2

>761.1

>762.1

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WO 01/42467 PCT/US00/33312 584

Table 3

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>764.2

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>765.1

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>766.1

>767.1

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WO 01/42467 PCT/US00/33312 585

Table 3

CATGTTCAC

>771.1

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>782.1

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>785.1

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786 1

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Table 3

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>790.1

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>792.1

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>793.1

>796.1

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Table 3

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>797.1

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>797.2

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>798.1

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Table 3

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>803.2

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CCCTTAGCGTGGTCGCGGCCGAGGTACACATATATACACACATATATAGA TATATACACCCACATATATATTTGCTGACATTTTAATGTGAAGTTTTAGT CTGGGATATAAAATGGAATGTATGACATCCTCAAATGTCTGAATACTGTT CACTCCTATGTTTTACATTTAATTTTCCAAAGCAAAACATTTCAGTTGAG GATTITATTAGAAAATAAATAATCATTTAGCCATATCTAGAAACCAGAAT AAACAATGCCATAAAGCCTATAGGAAAATGCAGGTCAGATTCATAAATAT ACCTGGATTACTCCGGTCTGAACTCAGATCACGTAGGGACTTTAATCGTT GAACAAACGAACCTTTAATAGCGGCTGCACCATCGGGATGTCCTGATCCA **ACATCGAGGGTCGTAAACCCTATTGGT**

>807.1 **AATTCCCATGATGTCAGACCACTGGAGTTTCCAGGGGCAACACCCCATAA** CCGTCCCGCTGCAGAAGAGCATCAGACGTTCAGTAAGAATGCAAAGGGTA TCTCAGTGGGAACCGCGGACCAGGAGAGCTCCCAAACCAACACATGGCTA GGGCTCTCTAGGCCCTTTCAGGCTAGATCTTGACGAGAGAAGAGTAAAGA TCTTTCTGAGGTTGGTGCAACTGAAGAAACGAAAGTTTCGGCCTCTGCTG TCAGATCTATGAAAGGAAAGAACTGTGAACTTGTCCCCTTTTGTTTTCTT TGACTTAAAACAAAAGAAAATCACTGGAACAAAGTCTTAAAGTAATAACA GAAATGTCAGAAAAGTTGAACATCTTATGGGCACATGCGGTGAGTTACGC TAACTTATAGCATCCACTGAGATTAGCCGCATAGGATTCTTCCCATGTTA GAGCTAAAAGGACCTACTGTCCGCCAGCTGCATTGCAGT >808.1

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>808.2

>808.3

>809.1

>810.1

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>810.2

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>811.1

>813.1

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>815.1

>816.1

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>817.2

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AGAAAAAAT

>818.1

>819.1

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>820.1

>821.1

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>823.1

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>825.1

>826.1

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ATCCTAGAAGCTTCTCTATTACCACAGTAACTGGCTAACTAGATATGATC
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Table 3

>827.1

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AGGGGAAATAAAAATTCCAGAAAGATGAAAAATTGTTGATGTAAGATGGA
GGCACA

>828.1

>829.1

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Table 4

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NNNNNNNNNNNCGCGCCCCGTGTTGCGAAGACGACGGTCCACAGCTGGGCGC GACCATAGCGGCCTCCCAGCCAGGGGGGGGGCCCTACGAGAGGGCCTCACGTGATGGTCA CCACTAAGAGGAGGCACAACGCCTGTTCCCGCAGAAAGCAGGCGCCCCAAAACGCTTCAGA

Table 4

CCAGAGCCGGACTGCATTGACGGAGACCATCACCCCAGAGACACTAAGACCGGAGTTAAGG TTCTAATGACTTCATTAAGTCTGGCCTTGAAAATGAGAGGTCTGGATGGCTTCTGATTTTCAG CTGCAGTACATCCCCTTCAGAGCCTACCAAGGCCACCATGCCATGAAGAGCTGCCAGACAA CCAAGTCTTCAGCTTTTCCATGTCCACACACACACACATCCATGAACTATGTTTCCTAAAGCCA GGGCAAAACCTGAAGTCTGCTGGCTATTCTCCACTAACAGTCGAAGCTTGTTCATAACATCC GTAGGCAAGGACCTCCTGAAACGTTCTGCTCTGGCTCCCGCTGTCATCTACGTGCGCAGAC AGCTTCCGGAGCAATGCTGCTACGTGAACGCGGGACTGCATTTGGCTGCTGTGGCTCATGA GGGACAGAACAAGTCCAACTCCCAATATACAGCCCGTGTTGTATTCAAGACTAGTGTCAAAG CAGCAATTTTCCAGGGCATCCAACGACTTCATCAGAAGAAGGTTCATCTCTTGGCCAGATAT ATCACTGAGTTTCTCTCACACAAGCGAGAGAGAACATCCCTAAAGCAAGGCCCATGTGGA TTTGCACGGCTTGAGACTCATCAGCACTTGGTTTCCCAGGTAACCTGGCAGTCAGCATGTTC AGGATTTCCTCAACCTTCTCTTTGCAAGAGATAATGAAAACTGGCACAAGGAGAGACAAAGC CGTGGCGCAGCAGAACGGCCAATGGCACTAGCTGTTTTTCACCAGAATAGGACTTATAA TAAAACCAGGAGAGAGTTGCCCTCTGGGTTGGTAATGGCTATCCACAATGACCAAGAGTGT ATCAAGTACCATGGAAACCCACTCTTTCATTGAAAGGAAATTAGGTTGAACCTCCAGGAGCC CGTCAGAGTCTGAGGAGAGGGTGGCTTCATGTCTAGATACGACGACAGCAAGGCTGCTTAG AGCTAACAGCGCATTGCCTTTCACTACCGGACTCTCCTTTGCAGCTGCCTTGGTGATCTCAT TCTTCTTTTCCATGTTTTAACTGCAACTCCAGCTCTCCTAGTCTTCCCTGTAAAATGGCATGAT AAGCTCGATTCATGTATGCAAGCCAGGCCTGTGGAAGAAAAATTGCACGGTGCCACTCTGAA **AGCTGGATCAGACN**

>6

NCGTCCGTCACGCGTCCGCCCACGCGTCCGGCGGATGGATCGCTTGAGGTCAGGC TGGTCTCAAACTCCTGACCTCAAGTGATCTGCCCGCCTCGGCCTCCCAAAGTACTGGGATTA TAGCTGTGAGCCACTGCACCTCCCGGAAATGCTTTTTAACGGTCACCTCCTAGGGGAGAT GATATGTTGTAGATACGTGAGATAGAATACCTAAGTGACACAATGGTGTGCAGGCTATGGCT GCAAAGTAGAAAGTTTCTAAATAGCATGCTTGGATTTTTATTTGAATTGGATGAAGTTTTTGTG TCCTAGAGAAATTCACAAAATGTTCCTAGTTTCAGATAAAAGGTTATGATTTAACATCTTTGCT TTTGTTCTTTCTTGTCTTTGAATAGAACAGTGGGGGACGGTAAGGTCTGTTTGCAAAGTACCT ATGACCATCTTACATTATTTTTATGGGTGGGGGGCATTGACTGTGGAATGTGGGCAGTAACT TGCACAGTCAGTAACCGTTTGAGTAACTTCTTGTTGGCATCCCCATTCTGGCACTCCTCCTCT AGGTCTCCACCTCACACGCTGGTTTGTGGGCGGAGGGGCAGGTTGGTGCGTGGGGTGTCC GGGCACTGGCTGCATGCCTTCTTCCTCTTCTGTCTCTTGGCCACCTTTTCCAAAAAGTCA CCAGTGACCAATTCTCCCAGTGTTTCTTTGGGACTCAATGCCTTGGGCTTGGCATTGGGTAA AGCCAACTGGCCAGTTTCATTCTGACGAGCTCTATAGTAGTCCGGTGTGGACCTCTGCCCTC CCTGCTCTGCGGAAGCTTCCTCAGCCTTTGCTTCTCACTATTTACTATTTGCGGGTCCTGGG GGTACCCAGCGTCTCAGGGTTTTGGCTGCCCACCTGTACGTCGGTCCTTTCAAACTGTGGT **AAGTCTTGCTGTGTTGTCCAGCCTGGATTCAAACTCCTGAGCTCAAGGAATCCN**

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TATAGTACTGTACGATATGAGGCAAGCTACTCCTTTGAAAAAGGTTATCTTAGATATGAGAAC AAATACAATCTGTTGGAACCCTATGGAAGCTTTCATTTTTACAGCAGCAAATGAAGATTATAA CTTATATACTTTTGATATGCGTGCACTGGACACTCCTGTAATGGTCCATATGGATCATGTATC TGCAGTGCTTGATGTGGATTACTCTCCCACTGGGAAGGAGTTTGTGTCTCCTAGTTTCGATA AATCTATTCGAATCTTTCCTGTAGACAAAAGTCGAAGCAGGGAGGTATATCATACAAAGAGAA TGCAACATGTTATCTGTGTAAAATGGACTTCTGACAGCAAGTATATTATGTGTGGATCTGATG AAATGAACATTCGCCTGTGGAAAGCTAATGCTTCTGAAAAATTGGGTGTGCTTACATCACGA GAAAAAGCAGCCAAGGATTATAACCAGAAATTGAAGGAGAAATTTCAGCATTATCCTCATATA CATCATGAAAGAAGCTCGTCGACGAAAGGAAGTGAATCGTATTAAACACAGCAAGCCTGGAT CTGTGCCACTTGTGTCAGAGAAGAAGAACACGTAGTGGCAGTTGTAAAATAATTGGTATTC CTAACAATCCTGATGTATAATTATTTGTTACTTTTGATTTGAGAACTCTACAAATAAAAGTGCT GGGACTAGATTAATTGCAAACATTTTAGTTATATGTGTAGAGCTTTATTGTTACTCCTTTTAGC TACCCTGAAAAATGATCCTTAAAGGTGGCCTAGTTGGTAAGACTGTTTTATCCTTAATCTGCA TTCTTCTTTCATTGTAGAATACAGTATTTTGCAACTCATTTTTTCTTGTTTTTATTACAGATATAC TTACTTTCTCTTTGATCTATTGTAGACACTATACATTCAAATTGACATTTAAGACCAAACAT CTCTTATGTTATCTTTAATATTACTTTGAATAATGATTGCAATGATGTTTCTTCCTGTGATTCCA NNN

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Table 4

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Table 4

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>24

NNNNNNNNNNCGCGCCCCGTGTTGCGAAGACGACGGTCCACAGCTGGGCGC GACCATAGCGGCCTCCCAGCCAGGGGGGGGGCCCTACGAGAGGGCCTCACGTGATGGTCA CCACTAAGAGGAGGCACAACGCCTGTTCCCGCAGAAAGCAGGCGCCCCAAAACGCTTCAGA CCAGAGCCGGACTGCATTGACGGAGACCATCACCCCAGAGACACTAAGACCGGAGTTAAGG TTCTAATGACTTCATTAAGTCTGGCCTTGAAAATGAGAGGTCTGGATGGCTTCTGATTTTCAG CTGCAGTACATCCCCTTCAGAGCCTACCAAGGCCACCATGCCATGAAGAGCTGCCAGACAA CCAAGTCTTCAGCTTTTCCATGTCCACACACACACACATCCATGAACTATGTTTCCTAAAGCCA GGGCAAAACCTGAAGTCTGCTGGCTATTCTCCACTAACAGTCGAAGCTTGTTCATAACATCC GTAGGCAAGGACCTCCTGAAACGTTCTGCTCTGGCTCCCGCTGTCATCTACGTGCGCAGAC AGCTTCCGGAGCAATGCTGCTACGTGAACGCGGGACTGCATTTGGCTGCTGTGGCTCATGA GGGACAGACAAGTCCAACTCCCAATATACAGCCCGTGTTGTATTCAAGACTAGTGTCAAAG CAGCAATTTTCCAGGGCATCCAACGACTTCATCAGAAGAAGGTTCATCTTTGGCCAGATAT **ATCACTGAGTTTCTCTTCACACAAGCGAGAGAGAACATCCCTAAAGCAAGGCCCATGTGGA** TTTGCACGCCTTGAGACTCATCAGCACTTGGTTTCCCAGGTAACCTGGCAGTCAGCATGTTC AGGATTTCCTCAACCTTCTCTTTGCAAGAGATAATGAAAACTGGCACAAGGAGAGACAAAGC CGTGGCGGCAGCAGAACGGGCAATGGCACTAGCTGTTTTCACCAGAATAGGACTTATAA TAAAACCAGGAGAGAAGTTGCCCTCTGGGTTGGTAATGGCTATCCACAATGACCAAGAGTGT ATCAAGTACCATGGAAACCCACTCTTTCATTGAAAGGAAATTAGGTTGAACCTCCAGGAGCC CGTCAGAGTCTGAGGAGAGGCTGGCTTCATGTCTAGATACGACGACAGCAAGGCTGCTTAG AGCTAACAGCGCATTGCCTTTCACTACCGGACTCTCCTTTGCAGCTGCCTTGGTGATCTCAT CAGTCAGCATGTCTCTAACCCAGAGCCAGGCTGTGCTTTTTTTGTACTGCACCTCCTCAGGT TCTTCTTTTCCATGTTTTAACTGCAACTCCAGCTCTCCTAGTCTTCCCTGTAAAATGGCATGAT AAGCTCGATTCATGTATGCAAGCCAGGCCTGTGGAAGAAAATTGCACGGTGCCACTCTGAA **AGCTGGATCAGACN**

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AGATGTTTTTATAACATGAAATATTCTACTGCGTTAAGATCAAAATGCTGACTATACTTGTTCC
GTATACCTTCAGACCACTGTTAATGTAATATTTTTGGCAAGGTGAATGGTCTTTTTTTGGATATAA
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>26

Table 4

AGACATTTGGGATGAACAAAGAACTAATCCTATATGTTCAATGACCTGGGGATTTGACAGTAT AAGTAGTGTTAAATTTAACCCAATTGAGACATTTCTCTTGGGAAGTTGTGCATCTGACAGGAA TATAGTACTGTACGATATGAGGCAAGCTACTCCTTTGAAAAAGGTTATCTTAGATATGAGAAC AAATACAATCTGTTGGAACCCTATGGAAGCTTTCATTTTTACAGCAGCAAATGAAGATTATAA CTTATATACTTTTGATATGCGTGCACTGGACACTCCTGTAATGGTCCATATGGATCATGTATC TGCAGTGCTTGATGTGGATTACTCTCCCACTGGGAAGGAGTTTGTGTCTCGCTAGTTTCGATA AATCTATTCGAATCTTTCCTGTAGACAAAAGTCGAAGCAGGGAGGTATATCATACAAAGAGAA TGCAACATGTTATCTGTGTAAAATGGACTTCTGACAGCAAGTATATTATGTGTGGATCTGATG AAATGAACATTCGCCTGTGGAAAGCTAATGCTTCTGAAAAATTGGGTGTGCTTACATCACGA GAAAAAGCAGCCAAGGATTATAACCAGAAATTGAAGGAGAAATTTCAGCATTATCCTCATATA CATCATGAAAGAAGCTCGTCGACGAAAGGAAGTGAATCGTATTAAACACAGCAAGCCTGGAT CTGTGCCACTTGTGTCAGAGAAGAAGAACACGTAGTGGCAGTTGTAAAATAATTGGTATTC CTAACAATCCTGATGTATAATTATTTGTTACTTTTGATTTGAGAACTCTACAAATAAAAGTGCT GGGACTAGATTAATTGCAAACATTTTAGTTATATGTGTAGAGCTTTATTGTTACTCCTTTTAGC TACCCTGAAAAATGATCCTTAAAGGTGGCCTAGTTGGTAAGACTGTTTTATCCTTAATCTGCA TTCTTCTTTCATTGTAGAATACAGTATTTGCAACTCATTTTTTCTTGTTTTTATTACAGATATAC TTACTTTCTCTTTGATCTATTATTGTAGACACTATACATTCAAATTGACATTTAAGACCAAAGAT CTCTTATGTTATCTTTAATATTACTTTGAATAATGATTGCAATGATGTTTCTTCCTGTGATTCCA TTTGGCTTTTTGACTCTTTTAAAACAATCAGCCTGCATTTATATAACTTTTATAAAATAATAAT NNN >27

NCGCCTGTGGGAGGACGTCCGGGTGGCCGAACTCCTAGCGGACACCTCGTGGA GTCCGCCGGAAGAGCAACCGAGATGAAGGTGAAGATGCTGAGCCGGAATCCGGACAATT ATGTCCGCGAAACCAAGTTGGACTTACAGAGAGTTCCAAGAAACTATGATCCTGCTTTACAT CCTTTTGAGGTCCCACGAGAATATATAAGAGCTTTAAATGCTACCAAACTGGAACGAGTATTT GCAAAACCATTCCTTGCTTCGCTGGATGGTCACCGTGATGGAGTCAATTGCTTGGCAAAGCA TCCAGAGAAGCTGGCTACTGTCCTTTCTGGGGCGTGTGATGGAGAGGTTAGAATTTGGAAT CTAACTCAGCGGAATTGTATCCGTACAATACAAGCACATGAAGGCTTTGTACGAGGAATATG TACTCGCTTTTGTGGGACTTCTTTTTTCACTGTTGGTGATGACAAAACTGTGAAGCAGTGGAA GTGTATACTGGGATTGATCATCACTGGAAAGAAGCTGTTTTTGCCACATGTGGACAGCAAGT AGACATTTGGGATGAACAAAGAACTAATCCTATATGTTCAATGACCTGGGGATTTGACAGTAT AAGTAGTGTTAAATTTAACCCAATTGAGACATTTCTCTTGGGAAGTTGTGCATCTGACAGGAA TATAGTACTGTACGATATGAGGCAAGCTACTCCTTTGAAAAAGGTTATCTTAGATATGAGAAC AAATACAATCTGTTGGAACCCTATGGAAGCTTTCATTTTTACAGCAGCAAATGAAGATTATAA CTTATATACTTTTGATATGCGTGCACTGGACACTCCTGTAATGGTCCATATGGATCATGTATC TGCAGTGCTTGATGTGGATTACTCTCCCACTGGGAAGGAGTTTGTGTCTGCTAGTTTCGATA AATCTATTCGAATCTTTCCTGTAGACAAAAGTCGAAGCAGGGAGGTATATCATACAAAGAGAA TGCAACATGTTATCTGTGTAAAATGGACTTCTGACAGCAAGTATATTATGTGTGGATCTGATG AAATGAACATTCGCCTGTGGAAAGCTAATGCTTCTGAAAAATTGGGTGTGCTTACATCACGA GAAAAAGCAGCCAAGGATTATAACCAGAAATTGAAGGAGAAATTTCAGCATTATCCTCATATA CATCATGAAAGAAGCTCGTCGACGAAAGGAAGTGAATCGTATTAAACACAGCAAGCCTGGAT CTGTGCCACTTGTGTCAGAGAAGAAGAACACGTAGTGGCAGTTGTAAAATAATTGGTATTC CTAACAATCCTGATGTATAATTATTTGTTACTTTTGATTTGAGAACTCTACAAATAAAAGTGCT GGGACTAGATTAATTGCAAACATTTTAGTTATATGTGTAGAGCTTTATTGTTACTCCTTTTTAGC TACCCTGAAAAATGATCCTTAAAGGTGGCCTAGTTGGTAAGACTGTTTTATCCTTAATCTGCA TTCTTCTTTCATTGTAGAATACAGTATTTGCAACTCATTTTTTCTTGTTTTTATTACAGATATAC TTACTTTCTCTTTGATCTATTGTTGTAGACACTATACATTCAAATTGACATTTAAGACCAAACAT CTCTTATGTTATCTTTAATATTACTTTGAATAATGATTGCAATGATGTTTCTTCCTGTGATTCCA

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CGCGGTGGCGGCCGAGGTACGTATGCACTTGCTTGCCATCTAAGCAGGGACAATG GCAGTTCATATCATGTTACTTTGATTCTCTGACCAAACTGGCCTGTGAGCACCCTGGGC CTTTCTTCCTCTGTCAAAGGCCTTAAGACAGGTTTACCCTGTAGCCAGGCTCTGGAAGACAG AGCTGGGTTAAAGCTGGGTGGGAGAAGTGAAAAAGGTCAGGTTTACATTCCTACGCGGAAA AGGATGTAACACGGGGCCACATCCTATGCCCAATCCCAAGGCAGGGAGGCAGGGAAGTGG CTGCCAAACCTGTTGTAGGAGAGTAATAAATGACTTGAGAGTAAGCCTAAGCAAACTCAAGT GGGAAGGGGAGTGGCTGTAAAATAGTTTAAGAGACTCTCTCAGGAAGTCAGCGTAATTGA TGTGTAGAAAGGTAACAGTCAACAGTTCTCCTAACAAGACAGCTTCAAAGCAGCAGCTATAG TGGAGCATTCCTGAGGCCTGCTGCAGATCAAAGCATGAATGTGCAGACTGGTCCTCTTGCC CAGCGTTTCTTCAAATCTTTGCACATGTTATATTTTAGAGGCAAGTTCAGTTCTAGAGGAGC TGGCCTGCCCCACAGACTCACCCCTCAGTCCCAGGCTGACCTTGGTGCCCAGAACTCAGGA GFFFGFFFACCCTAACTFTGTTTATAAAGTCCAGAATGGGGCCGGGAATGGTGGCTCACACC TGCAGTCCCAGCACTTTGGGGAAGCT

CGCGGTGGCGGCCGAGGTACGTATGCACTTGCTTGCCATCTAAGCAGGGACAATG GCAGTTCATATCATGATGTTACTTTGATTCTCTGACCAAACTGGCCTGTGAGCACCCTGGGC CTTTCTTCCTCTGTCAAAGGCCTTAAGACAGGTTTACCCTGTAGCCAGGCTCTGGAAGACAG AGCTGGGTTAAAGCTGGGTGGGAGAAGTGAAAAAGGTCAGGTTTACATTCCTACGCGGAAA AGGATGTAACACGGGGCCACATCCTATGCCCAATCCCAAGGCAGGGAGGCAGGGAAGTGG CTGCCAAACCTGTTGTAGGAGAGTAATAAATGACTTGAGAGTAAGCCTAAGCAAACTCAAGT GGGAAGGGGAGTGGCTGTAAAATAGTTTAAGAGACTCTCTCAGGAAGTCAGCGTAATTGA TGTGTAGAAAGGTAACAGTCAACAGTTCTCCTAACAAGACAGCTTCAAAGCAGCAGCTATAG TGGAGCATTCCTGAGGCCTGCTGCAGATCAAAGCATGAATGTGCAGACTGGTCCTCTTGCC CAGCGTTTCTTTCAAATCTTTGCACATGTTATATTTTAGAGGCAAGTTCAGTTCTAGAGGAGC TGGCCTGCCCCACAGACTCACCCCTCAGTCCCAGGCTGACCTTGGTGCCCAGAACTCAGGA GTTTGTTTACCCTAACTTTGTTTATAAAGTCCAGAATGGGGCCGGGAATGGTGGCTCACACC TGCAGTCCCAGCACTTTGGGGAAGCT >34

ACCAGTTAAAGTCTTCTAGCCTGTATCCCCACTCCTTTTTGCCACTTGCAAATTCGGT AGCCCAGTTACCCAGAGGGAGGCATAGGAGGGAAAACGAAGACTGAAAAGGGCTAATATGA GTTTTGTCTCTTACAATTTATCTGCATCTTATCCTTCCCCCACCCCCATCATTAAATCATTAA ACATTCTATCCAAATAGGATGCCCTTCTGTGGAACTGCATATTTGGAAACCATACTGCCTGTT TAACTTATGCACTCCACTGGGAACTTACAGTATCTGTTTCCCACAATACTTGCAGTCATATCA GTCCAATTTGAGAGATTTTTTCTGAATCCAGTTAAAATAATTTTTGGCTACACCTGGGGACAC TTCCCAGGACAACAATGACTTGTAGTCTAGTGCCCAAGAAAGCCAAAAAGGCCCGGCAACC TTGGTTGCCACCAGATCCCCAACAGACAGATTCTAAGGGAGAAGAGAAGTTCATCAACTAAC ACTCACAGTGTGTCTGCATTTTTCCTTCATAATTATGTGAGTTTCACTTAATGGGGCTGTCAC ATCCTGATGTTAGAGATTTTCTTTCCAAGGCAAATAGAACTTTCACCNNNNN >35

NCGCCTGTGGGAGGACGTCCGGGTGGGCGGAACTCCTAGCGGACACCTCGTGGA GTCCGCCGGAAGAGCAACCGAGATGAAGGTGAAGATGCTGAGCCGGAATCCGGACAATT ATGTCCGCGAAACCAAGTTGGACTTACAGAGAGTTCCAAGAAACTATGATCCTGCTTTACAT CCTTTTGAGGTCCCACGAGAATATATAAGAGCTTTAAATGCTACCAAACTGGAACGAGTATTT GCAAAACCATTCCTTGCTTCGCTGGATGGTCACCGTGATGGAGTCAATTGCTTGGCAAAGCA TCCAGAGAAGCTGGCTACTGTCCTTTCTGGGGCGTGTGATGGAGGGTTAGAATTTGGAAT CTAACTCAGCGGAATTGTATCCGTACAATACAAGCACATGAAGGCTTTGTACGAGGAATATG TACTCGCTTTTGTGGGACTTCTTTTTCACTGTTGGTGATGACAAAACTGTGAAGCAGTGGAA

GTGTATACTGGGATTGATCATCACTGGAAAGAAGCTGTTTTTGCCACATGTGGACAGCAAGT AGACATTTGGGATGAACAAAGAACTAATCCTATATGTTCAATGACCTGGGGATTTGACAGTAT AAGTAGTGTTAAATTTAACCCAATTGAGACATTTCTCTTGGGAAGTTGTGCATCTGACAGGAA TATAGTACTGTACGATATGAGGCAAGCTACTCCTTTGAAAAAGGTTATCTTAGATATGAGAAC AAATACAATCTGTTGGAACCCTATGGAAGCTTTCATTTTTACAGCAGCAAATGAAGATTATAA CTTATATACTTTTGATATGCGTGCACTGGACACTCCTGTAATGGTCCATATGGATCATGTATC TGCAGTGCTTGATGTGGATTACTCTCCCACTGGGAAGGAGTTTGTGTCTCCTAGTTTCGATA AATCTATTCGAATCTTTCCTGTAGACAAAAGTCGAAGCAGGGAGGTATATCATACAAAGAGAA TGCAACATGTTATCTGTGTAAAATGGACTTCTGACAGCAAGTATATTATGTGTGGATCTGATG AAATGAACATTCGCCTGTGGAAAGCTAATGCTTCTGAAAAATTGGGTGTGCTTACATCACGA GAAAAAGCAGCCAAGGATTATAACCAGAAATTGAAGGAGAAATTTCAGCATTATCCTCATATA CATCATGAAAGAAGCTCGTCGACGAAAGGAAGTGAATCGTATTAAACACAGCAAGCCTGGAT CTGTGCCACTTGTGTCAGAGAAGAAGAACACGTAGTGGCAGTTGTAAAATAATTGGTATTC CTAACAATCCTGATGTATAATTATTTGTTACTTTTGATTTGAGAACTCTACAAATAAAAGTGCT GGGACTAGATTAATTGCAAACATTTTAGTTATATGTGTAGAGCTTTATTGTTACTCCTTTTAGC TACCCTGAAAAATGATCCTTAAAGGTGGCCTAGTTGGTAAGACTGTTTTATCCTTAATCTGCA TTCTTCTTTCATTGTAGAATACAGTATTTGCAACTCATTTTTCTTGTTTTTATTACAGATATAC TTACTTTCTCTTTGATCTATTATTGTAGACACTATACATTCAAATTGACATTTAAGACCAAACAT CTCTTATGTTATCTTTAATATTACTTTGAATAATGATTGCAATGATGTTTCTTCCTGTGATTCCA TTTGGCTTTTTGACTCTTTTAAAACAATCAGCCTGCATTTATATAACTTTTATAAAATAATAAT NNN >36

GGTGGCGCCCGGGCTGGTACGCGGGAAAACGACAAGCACACCCCTG AGCAGAGCCCCGGGAATTCAACCTTTAAGTGGATAACTTGGCTTCTGGTTTGCCAAGGAACC AGGGCATCAAACAGATGAAACAGCCTATTGTCCATTTCAACAGGATTTTTCAGGAGTGGGGA TGATCTTTCAAATTATCCACAACTTAATTATTTAATATTTTGATAGTCAATTACCTAAGACACG GCATCGTCACTGACCAATCAGAAGAGATGCCAGTAGTTGGGCGCAGTGGCAGCACTTTGGG

Table 4

NNCACGCGTCCGGCTAATGAATCTTGGGGCCGGTGTCGGGCCGGGGCGGCTTGAT CGGCAACTAGGAAACCCCAGGCGCAGAGGCCAGGAGCGAGGGACCAGAGGATCAGAGGC CAGGCCTTCCCGGCGCCGCCCCCCGGAGGTCAGGGCAGATGAGGAACATGACTCTC TGTTCCCAGAGCTTTTTCTCTAGAGAAGATTTTGAAGGCGGCTTTTGTGCTGACGGCCACCC ACCATCATCTAAAGAAGATAAACTTGGCAAATGACATGCAGGTTCTTCAAGGCAGAATAATTG CAGAAAATCTTCAAAGGACCCTATCTGCAGATGTTCTGAATACCTCTGAGAATAGAGATTGAT TATTCAACCAGGATACCTAATTCAAGAACTCCAGAAATCAGGAGACGGAGACATTTTGTCAG TTTTGCAACATTGGACCAAATACAATGAAGTATTCTTGCTGTGCTCTGGTTTTGGCTGTCCTG GGCACAGAATTGCTGGGAAGCCTCTGTTCGACTGTCAGATCCCCGAGGTTCAGAGGACGGA TACAGCAGGAACGAAAAAACATCCGACCCAACATTATTCTTGTGCTTACCGATGATCAAGAT GTGGAGCTGGGGTCCCTGCAAGTCATGAACAAAACGAGAAAGATTATGGAACATGGGGGGG CCACCTTCATCAATGCCTTTGTGACTACACCCATGTGCTGCCCGTCACGGTCCTCCATGCTC ACCGGGAAGTATGTGCACAATCACAATGTCTACACCAACAACGAGAACTGCTCTTCCCCCTC GTGGCAGGCCATGCATGAGCCTCGGACTTTTGCTGTATATCTTAACAACACTGGCTACAGAA CAGCCTTTTTTGGAAAATACCTCAATGAATATAATGGCAGCTACATCCCCCCTGGGTGGCGA GAATGGCTTGGATTAATCAAGAATTCTCGCTTCTATAATTACACTGTTTGTCGCAATGGCATC AAAGAAAAGCATGGATTTGATTATGCAAAGGACTACTTCACAGACTTAATCACTAACGAGAGC ATTAATTACTTCAAAATGTCTAAGAGAATGTATCCCCATAGGCCCGTTATGATGGTGATCAGC CACGCTGCGCCCCACGGCCCCGAGGACTCAGCCCCACAGTTTTCTAAACTGTACCCCAATG CTTCCCAACACATAACTCCTAGTTATAACTATGCACCAAATATGGATAAACACTGGATTATGC AGTACACAGGACCAATGCTGCCCATCCACATGGAATTTACAAACATTCTACAGCGCAAAAGG CTCCAGACTTTGATGTCAGTGGATGATTCTGTGGAGAGGCTGTATAACATGCTCGTGGAGAC GGGGGAGCTGGAGAATACTTACATCATTTACACCGCCGACCATGGTTACCATATTGGGCAGT TTGGACTGGTCAAGGGGAAATCCATGCCATATGACTTTGATATTCGTGTGCCTTTTTTTATTC GTGGTCCAAGTGTAGAACCAGGATCAATAGTCCCACAGATCGTTCTCAACATTGACTTGGCC CCCACGATCCTGGATATTGCTGGGCTCGACACCCTCCTGATGTGGACGGCAAGTCTGTCC GAATATCCAACAGTCAAATCACTTGCCCAAATATGAACGGGTCAAAGAACTATGCCAGCAGG CCAGGTACCAGACAGCCTGTGAACAACCGGGGCAGAAGTGGCAATGCATTGAGGATACATC TGGCAAGCTTCGAATTCACAAGTGTAAAGGACCCAGTGACCTGCTCACAGTCCGGCAGAGC ACGCGGAACCTCTACGCTCGCGGCTTCCATGACAAAGACAAAGAGTGCAGTTGTAGGGAGT CTGGTTACCGTGCCAGCAGAAGCCAAAGAAAGAGTCAACGGCAATTCTTGAGAAACCAGGG GACTCCAAAGTACAAGCCCAGATTTGTCCATACTCGGCAGACACGTTCCTTGTCCGTCGAAT TTGAAGGTGAAATATATGACATAAATCTGGAAGAAGAAGAAGAATTGCAAGTGTTGCAACCA AGAAACATTGCTAAGCGTCATGATGAAGGCCACAAGGGGCCAAGAGATCTCCAGGCTTCCA GTGGTGGCAACAGGGCAGGATGCTGGCAGATAGCAGCAACGCCGTGGGCCCACCTACCA TGTACCAATCGGCCAGAGCGTGGAAGGACCATAAGGCATACATTGACAAAGAGATTGAAGC AGGAATGTAGCTGCAGTAAACAAAGCTATTACAATAAAGAGAAAGGTGTAAAAAAGCAAGAG AAATTAAAGAGCCATCTTCACCCATTCAAGGAGGCTGCTCAGGAAGTAGATAGCAAACTGCA GAAGGGGAAGAGTGCAGCCTGCCTGGCCTCACTTGCTTCACGCATGACAACAACCACTGG CAGACAGCCCCGTTCTGGAACCTGGGATCTTTCTGTGCTTGCACGAGTTCTAACAATAACAC CTACTGGTGTTTGCGTACAGTTAATGAGACGCATAATTTTCTTTTCTGTGAGTTTGCTACTGG CTTTTTGGAGTATTTTGATATGAATACAGATCCTTATCAGCTCACAAATACAGTGCACACGGT AGAACGAGGCATTTTGAATCAGCTACACGTACAACTAATGGAGCTCAGAAGCTGTCAAGGAT ATAAGCAGTGCAACCCAAGACCTAAGAATCTTGATGTTGGAAATAAAGATGGAGGAAGCTAT GACCTACACAGAGGACAGTTATGGGATGGATGGGAAGGTTAATCAGCCCCGTCTCACTGCA

TGCACTGCTGAAGAGTCACTATGAGCAAAATAAAACAAATAAGACTCAAACTGCTCAAAGTG ACGGGTTCTTGGTTGTCTCTGCTGAGCACGCTGTGTCAATGGAGATGGCCTCTGCTGACTC AGATGAAGACCCAAGGCATAAGGTTGGGAAAACACCTCATTTGACCTTGCCAGCTGACCTTC AAACCCTGCATTTGAACCGACCAACATTAAGTCCAGAGAGTAAACTTGAATGGAATAACGAC ATTCCAGAAGTTAATCATTTGAATTCTGAACACTGGAGAAAAACCGAAAAATGGACGGGGCA TGAAGAGACTAATCATCTGGAAACCGATTTCAGTGGCGATGGCATGACAGAGCTAGAGCTC GGGCCCAGCCCAGGCTGCAGCCCATTCGCAGGCACCCGAAAGAACTTCCCCAGTATGGT GGTCCTGGAAAGGACATTTTTGAAGATCAACTATATCTTCCTGTGCATTCCGATGGAATTTCA GTTCATCAGATGTTCACCATGGCCACCGCAGAACACCGAAGTAATTCCAGCATAGCGGGGA AGATGTTGACCAAGGTGGAGAAGAATCACGAAAAGGAGAAGTCACAGCACCTAGAAGGCAG CGCCTCCTCTCACTCTCTCTGATTAGATGAAACTGTTACCTTACCCTAAACACAGTATTTC TTTTTAACTTTTTATTTGTAAACTAATAAAGGTAATCACAGCCACCAACATTCCAAGCTACCC TGGGTACCTTTGTGCAGTAGAAGCTAGTGAGCATGTGAGCAAGCGGTGTGCACACGGAGAC TTGGTTTTGATTTTTTGCTTGTTTGTTTGTTTTGTACTAAAACAGTATTATCTTTTGAATATCGT AGGGACATAAGTATACATGTTATCCAATCAAGATGGCTATAATGGGCTTTCTCAGAGATAA **AACTIGACCCCGTGTCAAATTGACATCACACTCTGCATGTCTGCGTAATGAAGGTAGGATG** CAACTATAACCAGTGCAATATGACACTGACACTATATTAAATTCAATAATACNN

NCGCCTGTGGGAGGACGTCCGGGTGGGCGGAACTCCTAGCGGACACCTCGTGGA GTCCGGCCGGAAGAGCAACCGAGATGAAGGTGAAGATGCTGAGCCGGAATCCGGACAATT ATGTCCGCGAAACCAAGTTGGACTTACAGAGAGTTCCAAGAAACTATGATCCTGCTTTACAT CCTTTTGAGGTCCCACGAGAATATATAAGAGCTTTAAATGCTACCAAACTGGAACGAGTATTT GCAAAACCATTCCTTGCTTCGCTGGATGGTCACCGTGATGGAGTCAATTGCTTGGCAAAGCA TCCAGAGAAGCTGGCTACTGTCCTTTCTGGGGCGTGTGATGGAGAGGTTAGAATTTGGAAT CTAACTCAGCGGAATTGTATCCGTACAATACAAGCACATGAAGGCTTTGTACGAGGAATATG TACTCGCTTTTGTGGGACTTCTTTTTTCACTGTTGGTGATGACAAAACTGTGAAGCAGTGGAA GTGTATACTGGGATTGATCATCACTGGAAAGAAGCTGTTTTTGCCACATGTGGACAGCAAGT AGACATTTGGGATGAACAAAGAACTAATCCTATATGTTCAATGACCTGGGGATTTGACAGTAT AAGTAGTGTTAAATTTAACCCAATTGAGACATTTCTCTTGGGAAGTTGTGCATCTGACAGGAA TATAGTACTGTACGATATGAGGCAAGCTACTCCTTTGAAAAAGGTTATCTTAGATATGAGAAC AAATACAATCTGTTGGAACCCTATGGAAGCTTTCATTTTTACAGCAGCAAATGAAGATTATAA CTTATATACTTTTGATATGCGTGCACTGGACACTCCTGTAATGGTCCATATGGATCATGTATC TGCAGTGCTTGATGTGGATTACTCTCCCACTGGGAAGGAGTTTGTGTCTGCTAGTTTCGATA AATCTATTCGAATCTTTCCTGTAGACAAAAGTCGAAGCAGGGAGGTATATCATACAAAGAGAA TGCAACATGTTATCTGTGTAAAATGGACTTCTGACAGCAAGTATATTATGTGTGGATCTGATG AAATGAACATTCGCCTGTGGAAAGCTAATGCTTCTGAAAAATTGGGTGTGCTTACATCACGA GAAAAAGCAGCCAAGGATTATAACCAGAAATTGAAGGAGAAATTTCAGCATTATCCTCATATA CATCATGAAAGAAGCTCGTCGACGAAAGGAAGTGAATCGTATTAAACACAGCAAGCCTGGAT CTGTGCCACTTGTGTCAGAGAAGAAGAACACGTAGTGGCAGTTGTAAAATAATTGGTATTC CTAACAATCCTGATGTATAATTATTTGTTACTTTTGATTTGAGAACTCTACAAATAAAAGTGCT GGGACTAGATTAATTGCAAACATTTTAGTTATATGTGTAGAGCTTTATTGTTACTCCTTTTAGC TACCCTGAAAAATGATCCTTAAAGGTGGCCTAGTTGGTAAGACTGTTTTATCCTTAATCTGCA

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NCGCCTGTGGGAGGACGTCCGGGTGGCGGAACTCCTAGCGGACACCTCGTGGA GTCCGGCCGGAAGAGCAACCGAGATGAAGGTGAAGATGCTGAGCCGGAATCCGGACAATT ATGTCCGCGAAACCAAGTTGGACTTACAGAGAGTTCCAAGAAACTATGATCCTGCTTTACAT CCTTTTGAGGTCCCACGAGAATATATAAGAGCTTTAAATGCTACCAAACTGGAACGAGTATTT GCAAAACCATTCCTTGCTTCGCTGGATGGTCACCGTGATGGAGTCAATTGCTTGGCAAAGCA TCCAGAGAAGCTGGCTACTGTCCTTTCTGGGGCGTGTGATGGAGAGGTTAGAATTTGGAAT CTAACTCAGCGGAATTGTATCCGTACAATACAAGCACATGAAGGCTTTGTACGAGGAATATG TACTCGCTTTTGTGGGACTTCTTTTTTCACTGTTGGTGATGACAAAACTGTGAAGCAGTGGAA GTGTATACTGGGATTGATCATCACTGGAAAGAAGCTGTTTTTGCCACATGTGGACAGCAAGT AGACATTTGGGATGAACAAAGAACTAATCCTATATGTTCAATGACCTGGGGATTTGACAGTAT AAGTAGTGTTAAATTTAACCCAATTGAGACATTTCTCTTGGGAAGTTGTGCATCTGACAGGAA TATAGTACTGTACGATATGAGGCAAGCTACTCCTTTGAAAAAGGTTATCTTAGATATGAGAAC AAATACAATCTGTTGGAACCCTATGGAAGCTTTCATTTTTACAGCAGCAAATGAAGATTATAA CTTATATACTTTTGATATGCGTGCACTGGACACTCCTGTAATGGTCCATATGGATCATGTATC TGCAGTGCTTGATGTGGATTACTCTCCCACTGGGAAGGAGTTTGTGTCTGCTAGTTTCGATA AATCTATTCGAATCTTTCCTGTAGACAAAAGTCGAAGCAGGGAGGTATATCATACAAAGAGAA TGCAACATGTTATCTGTGTAAAATGGACTTCTGACAGCAAGTATATTATGTGTGGATCTGATG AAATGAACATTCGCCTGTGGAAAGCTAATGCTTCTGAAAAATTGGGTGTGCTTACATCACGA GAAAAAGCAGCCAAGGATTATAACCAGAAATTGAAGGAGAAATTTCAGCATTATCCTCATATA CATCATGAAAGAAGCTCGTCGACGAAAGGAAGTGAATCGTATTAAACACAGCAAGCCTGGAT CTGTGCCACTTGTGTCAGAGAAGAAGAAACACGTAGTGGCAGTTGTAAAATAATTGGTATTC CTAACAATCCTGATGTATAATTATTTGTTACTTTTGATTTGAGAACTCTACAAATAAAAGTGCT GGGACTAGATTAATTGCAAACATTTTAGTTATATGTGTAGAGCTTTATTGTTACTCCTTTTAGC TACCCTGAAAAATGATCCTTAAAGGTGGCCTAGTTGGTAAGACTGTTTTATCCTTAATCTGCA TTCTTCTTTCATTGTAGAATACAGTATTTGCAACTCATTTTTTCTTGTTTTTATTACAGATATAC TTACTTTCTCTTTGATCTATTGTTGTAGACACTATACATTCAAATTGACATTTAAGACCAAACAT CTCTTATGTTATCTTTAATATTACTTTGAATAATGATTGCAATGATGTTTCTTCCTGTGATTCCA NNN

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Table 4

NNCACGCGTCCGGCTAATGAATCTTGGGGCCGGTGTCGGGCCGGGGCGGCTTGAT CGGCAACTAGGAAACCCCAGGCGCAGAGGCCAGGAGCGAGGGCAGCGAGGATCAGAGGC CAGGCCTTCCCGGCTGCCGCCTCCTCGGAGGTCAGGGCAGATGAGGAACATGACTCTC CCCCTTCGGAGGAGGAAGGAAGTCCCGCTGCCACCTTATCTCTGCTCCTCTGCCTCCCC TGTTCCCAGAGCTTTTTCTCTAGAGAAGATTTTGAAGGCGGCTTTTGTGCTGACGGCCACCC ACCATCATCTAAAGAAGATAAACTTGGCAAATGACATGCAGGTTCTTCAAGGCAGAATAATTG CAGAAAATCTTCAAAGGACCCTATCTGCAGATGTTCTGAATACCTCTGAGAATAGAGATTGAT TATTCAACCAGGATACCTAATTCAAGAACTCCAGAAATCAGGAGACGGAGACATTTTGTCAG TTTTGCAACATTGGACCAAATACAATGAAGTATTCTTGCTGTGCTCTGGTTTTTGGCTGTCCTG GGCACAGAATTGCTGGGAAGCCTCTGTTCGACTGTCAGATCCCCGAGGTTCAGAGGACGGA TACAGCAGGAACGAAAAAACATCCGACCCAACATTATTCTTGTGCTTACCGATGATCAAGAT GTGGAGCTGGGGTCCCTGCAAGTCATGAACAAAACGAGAAAGATTATGGAACATGGGGGGG CCACCTTCATCAATGCCTTTGTGACTACACCCATGTGCTGCCCGTCACGGTCCTCCATGCTC ACCGGGAAGTATGTGCACAATCACAATGTCTACACCAACAACGAGAACTGCTCTTCCCCCTC GTGGCAGGCCATGCATGAGCCTCGGACTTTTGCTGTATATCTTAACAACACTGGCTACAGAA CAGCCTTTTTTGGAAAATACCTCAATGAATATAATGGCAGCTACATCCCCCCTGGGTGGCGA GAATGGCTTGGATTAATCAAGAATTCTCGCTTCTATAATTACACTGTTTGTCGCAATGGCATC AAAGAAAAGCATGGATTTGATTATGCAAAGGACTACTTCACAGACTTAATCACTAACGAGAGC ATTAATTACTTCAAAATGTCTAAGAGAATGTATCCCCATAGGCCCGTTATGATGGTGATCAGC CACGCTGCGCCCCACGGCCCCGAGGACTCAGCCCCACAGTTTTCTAAACTGTACCCCAATG CTTCCCAACACATAACTCCTAGTTATAACTATGCACCAAATATGGATAAACACTGGATTATGC AGTACACAGGACCAATGCTGCCCATCCACATGGAATTTACAAACATTCTACAGCGCAAAAGG CTCCAGACTTTGATGTCAGTGGATGATTCTGTGGAGAGGCTGTATAACATGCTCGTGGAGAC GGGGGAGCTGGAGAATACTTACATCATTTACACCGCCGACCATGGTTACCATATTGGGCAGT TTGGACTGGTCAAGGGGAAATCCATGCCATATGACTTTGATATTCGTGTGCCTTTTTTTATTC GTGGTCCAAGTGTAGAACCAGGATCAATAGTCCCACAGATCGTTCTCAACATTGACTTGGCC CCCACGATCCTGGATATTGCTGGGCTCGACACACCTCCTGATGTGGACGGCAAGTCTGTCC GAATATCCAACAGTCAAATCACTTGCCCAAATATGAACGGGTCAAAGAACTATGCCAGCAGG CCAGGTACCAGACAGCCTGTGAACAACCGGGGCAGAAGTGGCAATGCATTGAGGATACATC TGGCAAGCTTCGAATTCACAAGTGTAAAGGACCCAGTGACCTGCTCACAGTCCGGCAGAGC ACGCGGAACCTCTACGCTCGCGGCTTCCATGACAAAGACAAAGAGTGCAGTTGTAGGGAGT CTGGTTACCGTGCCAGCAGAAGCCAAAGAAAGAGTCAACGGCAATTCTTGAGAAACCAGGG GACTCCAAAGTACAAGCCCAGATTTGTCCATACTCGGCAGACACGTTCCTTGTCCGTCGAAT TTGAAGGTGAAATATATGACATAAATCTGGAAGAAGAAGAAGAATTGCAAGTGTTGCAACCA AGAAACATTGCTAAGCGTCATGATGAAGGCCACAAGGGGCCCAAGAGATCTCCAGGCTTCCA GTGGTGGCAACAGGGGCAGGATGCTGGCAGATAGCAGCAACGCCGTGGGCCCACCTACCA TGTACCAATCGGCCAGAGCGTGGAAGGACCATAAGGCATACATTGACAAAGAGATTGAAGC AGGAATGTAGCTGCAGTAAACAAAGCTATTACAATAAAGAGAAAGGTGTAAAAAAAGCAAGAG AAATTAAAGAGCCATCTTCACCCATTCAAGGAGGCTGCTCAGGAAGTAGATAGCAAACTGCA GAAGGGGAAGAGTGCAGCCTGCCTGGCCTCACTTGCTTCACGCATGACAACAACCACTGG CAGACAGCCCCGTTCTGGAACCTGGGATCTTTCTGTGCTTGCACGAGTTCTAACAATAACAC CTACTGGTGTTTGCGTACAGTTAATGAGACGCATAATTTTCTTTTCTGTGAGTTTGCTACTGG CTTTTTGGAGTATTTTGATATGAATACAGATCCTTATCAGCTCACAAATACAGTGCACACGGT AGAACGAGGCATTTTGAATCAGCTACACGTACAACTAATGGAGCTCAGAAGCTGTCAAGGAT ATAAGCAGTGCAACCCAAGACCTAAGAATCTTGATGTTGGAAATAAAGATGGAGGAAGCTAT

GACCTACACAGAGGACAGTTATGGGATGGATGGAAGGTTAATCAGCCCCGTCTCACTGCA TGCACTGCTGAAGAGTCACTATGAGCAAAATAAAACAAATAAGACTCAAACTGCTCAAAGTG ACGGGTTCTTGGTTGTCTCTGCTGAGCACGCTGTGTCAATGGAGATGGCCTCTGCTGACTC AGATGAAGACCCAAGGCATAAGGTTGGGAAAACACCTCATTTGACCTTGCCAGCTGACCTTC AAACCCTGCATTTGAACCGACCAACATTAAGTCCAGAGAGTAAACTTGAATGGAATAACGAC ATTCCAGAAGTTAATCATTTGAATTCTGAACACTGGAGAAAAACCGAAAAATGGACGGGGCA TGAAGAGACTAATCATCTGGAAACCGATTTCAGTGGCGATGGCATGACAGAGCTAGAGCTC GGGCCCAGCCCCAGGCTGCAGCCCATTCGCAGGCACCCGAAAGAACTTCCCCAGTATGGT GGTCCTGGAAAGGACATTTTTGAAGATCAACTATATCTTCCTGTGCATTCCGATGGAATTTCA GTTCATCAGATGTTCACCATGGCCACCGCAGAACACCGAAGTAATTCCAGCATAGCGGGGA AGATGTTGACCAAGGTGGAGAAGAATCACGAAAAGGAGAAGTCACAGCACCTAGAAGGCAG CGCCTCCTCTCACTCTCTCTGATTAGATGAAACTGTTACCTTACCCTAAACACAGTATTTC TTTTTAACTTTTTATTTGTAAACTAATAAAGGTAATCACAGCCACCAACATTCCAAGCTACCC TGGGTACCTTTGTGCAGTAGAAGCTAGTGAGCATGTGAGCAAGCGGTGTGCACACGGAGAC TCATCGTTATAATTTACTATCTGCCAAGAGTAGAAAGAAGGCTGGGGATATTTGGGTTGGC TTGGTTTTGATTTTTTGCTTGTTTGTTTTGTTTGTACTAAAACAGTATTATCTTTTGAATATCGT AGGGACATAAGTATATACATGTTATCCAATCAAGATGGCTATAATGGGCTTTCTCAGAGATAA AACTTGACCCCGTGTCAAATTGACATCACACTCTGCATGTCTGCGTAATGAAGGTACGATG CAACTATAACCAGTGCAATATGACACTGACACTATATTAAATTCAATAATACNN >50

NCGCCTGTGGGAGGACGTCCGGGTGGGCGGAACTCCTAGCGGACACCTCGTGGA GTCCGGCCGGAAGACCAACCGAGATGAAGGTGAAGATGCTGAGCCGGAATCCGGACAATT ATGTCCGCGAAACCAAGTTGGACTTACAGAGAGTTCCAAGAAACTATGATCCTGCTTTACAT CCTTTTGAGGTCCCACGAGAATATATAAGAGCTTTAAATGCTACCAAACTGGAACGAGTATTT GCAAAACCATTCCTTGCTTCGCTGGATGGTCACCGTGATGGAGTCAATTGCTTGGCAAAGCA TCCAGAGAAGCTGGCTACTGTCCTTTCTGGGGCGTGTGATGGAGAGGTTAGAATTTGGAAT CTAACTCAGCGGAATTGTATCCGTACAATACAAGCACATGAAGGCTTTGTACGAGGAATATG TACTCGCTTTTGTGGGACTTCTTTTTTCACTGTTGGTGATGACAAAACTGTGAAGCAGTGGAA GTGTATACTGGGATTGATCATCACTGGAAAGAAGCTGTTTTTGCCACATGTGGACAGCAAGT AGACATTTGGGATGAACAAAGAACTAATCCTATATGTTCAATGACCTGGGGATTTGACAGTAT AAGTAGTGTTAAATTTAACCCAATTGAGACATTTCTCTTGGGAAGTTGTGCATCTGACAGGAA TATAGTACTGTACGATATGAGGCAAGCTACTCCTTTGAAAAAGGTTATCTTAGATATGAGAAC AAATACAATCTGTTGGAACCCTATGGAAGCTTTCATTTTTACAGCAGCAAATGAAGATTATAA CTTATATACTTTTGATATGCGTGCACTGGACACTCCTGTAATGGTCCATATGGATCATGTATC TGCAGTGCTTGATGTGGATTACTCTCCCACTGGGAAGGAGTTTGTGTCTGCTAGTTTCGATA AATCTATTCGAATCTTTCCTGTAGACAAAAGTCGAAGCAGGGAGGTATATCATACAAAGAGAA TGCAACATGTTATCTGTGTAAAATGGACTTCTGACAGCAAGTATATTATGTGTGGATCTGATG AAATGAACATTCGCCTGTGGAAAGCTAATGCTTCTGAAAAATTGGGTGTGCTTACATCACGA GAAAAAGCAGCCAAGGATTATAACCAGAAATTGAAGGAGAAATTTCAGCATTATCCTCATATA CATCATGAAAGAAGCTCGTCGACGAAAGGAAGTGAATCGTATTAAACACAGCAAGCCTGGAT CTGTGCCACTTGTGTCAGAGAAGAAGAACACGTAGTGGCAGTTGTAAAATAATTGGTATTC CTAACAATCCTGATGTATAATTATTTGTTACTTTTGATTTGAGAACTCTACAAATAAAAGTGCT GGGACTAGATTAATTGCAAACATTTTAGTTATATGTGTAGAGCTTTATTGTTACTCCTTTTAGC TACCCTGAAAAATGATCCTTAAAGGTGGCCTAGTTGGTAAGACTGTTTTATCCTTAATCTGCA TTCTTCTTTCATTGTAGAATACAGTATTTGCAACTCATTTTTTCTTGTTTTTATTACAGATATAC TTACTTTCTCTTTGATCTATTGTTGTAGACACTATACATTCAAATTGACATTTAAGACCAAACAT CTCTTATGTTATCTTTAATATTACTTTGAATAATGATTGCAATGATGTTTCTTCCTGTGATTCCA NNN

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Table 4

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GCGCCGAGGTACCTCAGCATATATTGGAAGTGTTTTAGAGTTGGTGAGTTCCCCG TGCCTTCCAGAACTGAACGCTAGGAGGAGCAGCCAGTGAGGACAGACGTCTATGCAGAAAC ATGGGGAACCTCTGGAAATGACACACTCTCCGGGCACAGGGGGCCATTCGTCCATCTTGAG GTGGACTAATCATGGAGATTCTCGCAGGGCCGGCTGCTATCTCAGATTTTCTAATCGGAGAA GGAGAGAGATCAACTTCCATCGACTCCAGTCTGTCGGGGGCTGATGAGGTGAGGTGGCAGCA GGCATCCGCGTGGATTTGTTGAAACTGGACTTTTTATTGTGCTGAAAGCTGCTTGTTGTGAT GATCTCATACTTGTAGTTGTTCTATCTGCAGCACTGACTTCATAAGGGATTCTTCCAACCTA GAAATCTTTTCTCTATAGAAGGCTAACAATCTCTTCGTGTGTTTTTCTTGAAATTCTAAAATCT GGGAGGTTTCCCTGGAGTACTTCTTACACAGACTGTCTATGCTCATGAAGAATGCCTGGATA TCTGCGTCAGTATGCTTTGAAAGCAAAACTGTACGACAAGGAGCTTTACAAATCAAGCATTCA TTCTTTTTACCTTTGCCGAGGCAGGCGTCGCAGTACACGTGCCCGCAGTTGGTGAGGCTGC CGCGCGACGTCCTGTGGGGCGCCTGGAAGCAGCGATTTCAGAACACCCAGTTGACCATGC CAGGCGGCGACCGCAGCGGCGAGGCCGGG

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NCGCCTGTGGGAGGACGTCCGGGTGGGCGGAACTCCTAGCGGACACCTCGTGGA GTCCGGCCGGAAGAGCCAACCGAGATGAAGGTGAAGATGCTGAGCCGGAATCCGGACAATT ATGTCCGCGAAACCAAGTTGGACTTACAGAGAGTTCCAAGAAACTATGATCCTGCTTTACAT CCTTTTGAGGTCCCACGAGAATATATAAGAGCTTTAAATGCTACCAAACTGGAACGAGTATTT GCAAAACCATTCCTTGCTTCGCTGGATGGTCACCGTGATGGAGTCAATTGCTTGGCAAAGCA TCCAGAGAAGCTGGCTACTGTCCTTTCTGGGGCGTGTGATGGAGGGTTAGAATTTGGAAT CTAACTCAGCGGAATTGTATCCGTACAATACAAGCACATGAAGGCTTTGTACGAGGAATATG TACTCGCTTTTGTGGGACTTCTTTTTTCACTGTTGGTGATGACAAAACTGTGAAGCAGTGGAA GTGTATACTGGGATTGATCATCACTGGAAAGAAGCTGTTTTTGCCACATGTGGACAGCAAGT AGACATTTGGGATGAACAAAGAACTAATCCTATATGTTCAATGACCTGGGGATTTGACAGTAT AAGTAGTGTTAAATTTAACCCAATTGAGACATTTCTCTTGGGAAGTTGTGCATCTGACAGGAA TATAGTACTGTACGATATGAGGCAAGCTACTCCTTTGAAAAAGGTTATCTTAGATATGAGAAC AAATACAATCTGTTGGAACCCTATGGAAGCTTTCATTTTTACAGCAGCAAATGAAGATTATAA CTTATATACTTTTGATATGCGTGCACTGGACACTCCTGTAATGGTCCATATGGATCATGTATC TGCAGTGCTTGATGTGGATTACTCTCCCACTGGGAAGGAGTTTGTGTCTGCTAGTTTCGATA AATCTATTCGAATCTTTCCTGTAGACAAAAGTCGAAGCAGGGAGGTATATCATACAAAGAGAA TGCAACATGTTATCTGTGTAAAATGGACTTCTGACAGCAAGTATATTATGTGTGGATCTGATG AAATGAACATTCGCCTGTGGAAAGCTAATGCTTCTGAAAAATTGGGTGTGCTTACATCACGA GAAAAAGCAGCCAAGGATTATAACCAGAAATTGAAGGAGAAATTTCAGCATTATCCTCATATA CATCATGAAAGAAGCTCGTCGACGAAAGGAAGTGAATCGTATTAAACACAGCAAGCCTGGAT CTGTGCCACTTGTGTCAGAGAAGAAGAACACGTAGTGGCAGTTGTAAAATAATTGGTATTC CTAACAATCCTGATGTATAATTATTTGTTACTTTTGATTTGAGAACTCTACAAATAAAAGTGCT GGGACTAGATTAATTGCAAACATTTTAGTTATATGTGTAGAGCTTTATTGTTACTCCTTTTTAGC TACCCTGAAAAATGATCCTTAAAGGTGGCCTAGTTGGTAAGACTGTTTTATCCTTAATCTGCA TTCTTCTTTCATTGTAGAATACAGTATTTGCAACTCATTTTTTCTTGTTTTTATTACAGATATAC TTACTTTCTCTTTGATCTATTATTGTAGACACTATACATTCAAATTGACATTTAAGACCAAACAT CTCTTATGTTATCTTTAATATTACTTTGAATAATGATTGCAATGATGTTTCTTCCTGTGATTCCA NNN

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NAGATGGGTTGGCTGCAGTAGTGAGAGGCTGGGGGTGCGGCTCTTTCCCTGCAGT TGTGGTAATGCCAGCCACACTCCTCAGAGCCGTGGCCAGATCTCATCATATTATCAAAAG CACATCAGTGCCGAAGAATCGGTCATCTAATGTTAAAACCACTTAAGGAATTTGAAAAATACAA GGTTTGAATAAGTCTCAGATCCTGGAAATGAACCAAAAAAAGTCAGATACCAGCATGCTGTC

Table 4

TCCATTAAATGCTGCTCGTTGCCAAGATGAAAAGGCACACCTTCCAACCATGAAATCCTTTG GTACTCACAGGAGAGTGACCCACAAACCAAATCTGTTGGGTTCTAAATGGTTTATAAAAATAT TAAAGAGGCATTTCTCATCTGTATCAACGGAAACATTTGTTCCAAAACAAGACTTCCCACAGG TGAAGAGCCACTAAAAGCATCCAGGACCAGACAGCCATCCAGGACCAACCTTCCAGTTCT GTCTGTGAACGAGGACCTAATGCACTGCACAGCATTTGCAACGGCAGATGAGTATCATCTG GGAAATCTGTCTCAAGATCTGGCCTCCCACGGATATGTTGAAGTAACAAGCTTGCCTAGAGA TGCAGCAAATATTTTGGTGATGGGTGTGGAAAATTCTGCAAAAGAAGGTGATCCTGGAACAA TATTCTTCTCAGGGAAGGAGCTGCTGTGTTTTGGAATGTGAAAGACAAAACTATGAAGCAT GTGATGAAAGTTCTAGAAAAACATGAAATTCAGCCCTATGAAATCGCACTGGTACACTGGGA AAATGAAGAACTTAACTACATAAAAATAGAGGGACAGTCAAAACTTCACAGGGGGGAAATCA AGTTAAATTCAGAGCTGGATTTAGATGATGCCATTCTAGAGAAGTTTGCTTTCTCCAATGCTC TATGCCTTTCTGTAAAACTGGCAATTTGGGAAGCATCACTGGATAAATTTATTGAATCTATTCA GTCAATTCCTGAGGCTTTAAAAGCTGGGAAGAAGTGAAACTATCTCATGAAGAAGTTATGC AGAAAATCGGTGAACTCTTTGCTCTAAGGCACCGTATAAACTTGAGTTCAGACTTCCTGATTA CTCCTGATTTCTACTGGGACAGAGAAAACCTGGAAGGACTTTACGATAAAACGTGTCAATTC CTTAGCATTGGCCGAAGAGTTAAGGTCATGAATGAAAAACTTCAGCACTGCATGGAACTAAC AGATCTAATGCGGAATCACCTGAATGAGAAGAGGGCACTCCGCTTGGAGTGGATGATTGTC ATCCTCATTACCATAGAGGTAATGTTTGAGCTGGGACGAGTATTTTTCTGATCAAGTGATAAC CAAAGTGTCACTGCAAGAGATATTCAAGTTCTACAATCAAAAATTAAATGTTCGGCCCGGCG CGGTGCCTCATGCCTGTAATCCCAGCACTTTCGGAGGCCAAGAAGGGTGGCTTGAGATGAG ATCAGGAGCTCAAGACAAGCCTGGCCAACATGGTGAAAACCCCATCTCTACTAAAAATACCAA AATTAGCCAGGTGTGTTGGCACACGCCCGTCATCTCAGCTACTCAGGAGGCTGAGGCAGGA GAATCTCTTGAACTTGGGAGGCGGAGGTTGCAGTGAGCTAAGATCACACCACTGCACTCCA NNNNNNNNNNNNN

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NCGCCTGTGGGAGGACGTCCGGGTGGGCGGAACTCCTAGCGGACACCTCGTGGA GTCCGCCGGAAGAGCAACCGAGATGAAGGTGAAGATGCTGAGCCGGAATCCGGACAATT ATGTCCGCGAAACCAAGTTGGACTTACAGAGAGTTCCAAGAAACTATGATCCTGCTTTACAT CCTTTTGAGGTCCCACGAGAATATATAAGAGCTTTAAATGCTACCAAACTGGAACGAGTATTT GCAAAACCATTCCTTGCTTCGCTGGATGGTCACCGTGATGGAGTCAATTGCTTGGCAAAGCA TCCAGAGAAGCTGGCTACTGTCCTTTCTGGGGCGTGTGATGGAGAGGTTAGAATTTGGAAT CTAACTCAGCGGAATTGTATCCGTACAATACAAGCACATGAAGGCTTTGTACGAGGAATATG TACTCGCTTTTGTGGGACTTCTTTTTTCACTGTTGGTGATGACAAAACTGTGAAGCAGTGGAA GTGTATACTGGGATTGATCATCACTGGAAAGAAGCTGTTTTTGCCACATGTGGACAGCAAGT AGACATTTGGGATGAACAAAGAACTAATCCTATATGTTCAATGACCTGGGGATTTGACAGTAT AAGTAGTGTTAAATTTAACCCAATTGAGACATTTCTCTTGGGAAGTTGTGCATCTGACAGGAA TATAGTACTGTACGATATGAGGCAAGCTACTCCTTTGAAAAAGGTTATCTTAGATATGAGAAC AAATACAATCTGTTGGAACCCTATGGAAGCTTTCATTTTTACAGCAGCAAATGAAGATTATAA CTTATATACTTTTGATATGCGTGCACTGGACACTCCTGTAATGGTCCATATGGATCATGTATC TGCAGTGCTTGATGTGGATTACTCTCCCACTGGGAAGGAGTTTGTGTCTGCTAGTTTCGATA AATCTATTCGAATCTTTCCTGTAGACAAAAGTCGAAGCAGGGAGGTATATCATACAAAGAGAA TGCAACATGTTATCTGTGTAAAATGGACTTCTGACAGCAAGTATATTATGTGTGGATCTGATG **AAATGAACATTCGCCTGTGGAAAGCTAATGCTTCTGAAAAATTGGGTGTGCTTACATCACGA** GAAAAAGCAGCCAAGGATTATAACCAGAAATTGAAGGAGAAATTTCAGCATTATCCTCATATA CATCATGAAAGAAGCTCGTCGACGAAAGGAAGTGAATCGTATTAAACACAGCAAGCCTGGAT CTGTGCCACTTGTGTCAGAGAAGAAGAACACGTAGTGGCAGTTGTAAAATAATTGGTATTC CTAACAATCCTGATGTATAATTATTTGTTACTTTTGATTTGAGAACTCTACAAATAAAAGTGCT GGGACTAGATTAATTGCAAACATTTTAGTTATATGTGTAGAGCTTTATTGTTACTCCTTTTAGC TACCCTGAAAAATGATCCTTAAAGGTGGCCTAGTTGGTAAGACTGTTTTATCCTTAATCTGCA TTCTTCTTTCATTGTAGAATACAGTATTTGCAACTCATTTTTTCTTGTTTTTATTACAGATATAC TTACTTTCTCTTTGATCTATTATTGTAGACACTATACATTCAAATTGACATTTAAGACCAAACAT CTCTTATGTTATCTTTAATATTACTTTGAATAATGATTGCAATGATGTTTCTTCCTGTGATTCCA

Table 4

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NCGCCTGTGGGAGGACGTCCGGGTGGGCGGAACTCCTAGCGGACACCTCGTGGA GTCCGCCGGAAGAGCAACCGAGATGAAGGTGAAGATGCTGAGCCGGAATCCGGACAATT ATGTCCGCGAAACCAAGTTGGACTTACAGAGAGTTCCAAGAAACTATGATCCTGCTTTACAT CCTTTTGAGGTCCCACGAGAATATATAAGAGCTTTAAATGCTACCAAACTGGAACGAGTATTT GCAAAACCATTCCTTGCTTCGCTGGATGGTCACCGTGATGGAGTCAATTGCTTGGCAAAGCA TCCAGAGAAGCTGGCTACTGTCCTTTCTGGGGCGTGTGATGGAGAGGTTAGAATTTGGAAT CTAACTCAGCGGAATTGTATCCGTACAATACAAGCACATGAAGGCTTTGTACGAGGAATATG TACTCGCTTTTGTGGGACTTCTTTTTTCACTGTTGGTGATGACAAAACTGTGAAGCAGTGGAA GTGTATACTGGGATTGATCATCACTGGAAAGAAGCTGTTTTTGCCACATGTGGACAGCAAGT **AGACATTTGGGATGAACAAAGAACTAATCCTATATGTTCAATGACCTGGGGATTTGACAGTAT** AAGTAGTGTTAAATTTAACCCAATTGAGACATTTCTCTTGGGAAGTTGTGCATCTGACAGGAA TATAGTACTGTACGATATGAGGCAAGCTACTCCTTTGAAAAAGGTTATCTTAGATATGAGAAC AAATACAATCTGTTGGAACCCTATGGAAGCTTTCATTTTTACAGCAGCAAATGAAGATTATAA CTTATATACTTTTGATATGCGTGCACTGGACACTCCTGTAATGGTCCATATGGATCATGTATC TGCAGTGCTTGATGTGGATTACTCTCCCACTGGGAAGGAGTTTGTGTCTGCTAGTTTCGATA **AATCTATTCGAATCTTTCCTGTAGACAAAAGTCGAAGCAGGGAGGTATATCATACAAAGAGAA** TGCAACATGTTATCTGTGTAAAATGGACTTCTGACAGCAAGTATATTATGTGTGGATCTGATG AAATGAACATTCGCCTGTGGAAAGCTAATGCTTCTGAAAAATTGGGTGTGCTTACATCACGA GAAAAAGCAGCCAAGGATTATAACCAGAAATTGAAGGAGAAATTTCAGCATTATCCTCATATA CATCATGAAAGAAGCTCGTCGACGAAAGGAAGTGAATCGTATTAAACACAGCAAGCCTGGAT CTGTGCCACTTGTGTCAGAGAAGAAGAACACGTAGTGGCAGTTGTAAAATAATTGGTATTC CTAACAATCCTGATGTATAATTATTTGTTACTTTTGATTTGAGAACTCTACAAATAAAAGTGCT GGGACTAGATTAATTGCAAACATTTTAGTTATATGTGTAGAGCTTTATTGTTACTCCTTTTTAGC TACCCTGAAAAATGATCCTTAAAGGTGGCCTAGTTGGTAAGACTGTTTTATCCTTAATCTGCA TTCTTCTTTCATTGTAGAATACAGTATTTGCAACTCATTTTTTCTTGTTTTTATTACAGATATAC TTACTTTCTCTTTGATCTATTATTGTAGACACTATACATTCAAATTGACATTTAAGACCAAACAT

>62 >63

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TTTTTTTTTTTTTTTTTGGAGGAGATGGACAGTGTCAGTCTCCTGATAAGGGGGTGA TGGGTAGGTAATTTAAAAGCTTCTATTATAAAATCTAGTCTCTCTGACACTGCCCTGTCCACT GCAGTCACATCTCCCAATA&TGAAGGATCCTGAGAATACGAGCGGGCATGACACTTACTCAC GTCATTCACCATNCTCGNNNNN

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ATTTGACAGAGCTGTCCCTGGTGCGGAATTCCCTGACTGCACCAGTAAACCTTCCAGG CACAAACCTGAGGAAGCTTTATCTTCAAGATAACCACATCAATCGGGTGCCCCCAAATGCTT TTTCTTATCTAAGGCAGCTCTATCGACTGGATATGTCCAATAATAACCTAAGTAATTTACCTCA GGGTATCTTTGATGATTTGGACAATATAACACAACTGATTCTTCGCAACAATCCCTGGTATTG CGGGTGCAAGATGAAATGGGTACGTGACTGGTTACAATCACTACCTGTGAAGGTCAACGTG CGTGGGCTCATGTGCCAAGCCCCAGAAAAGGTTCGTGGGATGGCTATTAAGGATCTCAATG CAGAACTGTTTGATTGTAAGGACAGTGGGATTGTAAGCACCATTCAGATAACCACTGCAATA CCCAACACAGTGTATCCTGCCCAAGGACAGTGGCCAGCTCCAGTGACCAAACAGCCAGATA TTAAGAACCCCAAGCTCACTAAGGATCACCAAACCACAGGGAGTCCCTCAAGAAAAACAATT ACAATTACTGTGAAGTCTGTCACCTCTGATACCATTCATATCTCTTGGAAACTTGCTCTACCT ATGACTGCTTTGAGACTCAGCTGGCTTAAACTGGGCCATAGCCCGGCATTTGGATCTATAAC AGAAACAATTGTAACAGGGGAACGCAGTGAGTACTTGGTCACAGCCCTGGAGCCTGATTCA CCCTATAAAGTATGCATGGTTCCCATGGAAACCAGCAACCTCTACCTATTTGATGAAACTCCT GTTTGTATTGAGACTGAAACTGCACCCCTTCGAATGTACAACCCTACAACCACCCTCAATCG AGAGCAAGAAAAAACCTTACAAAAACCCCAATTTACCTTTGGCTGCCATCATTGGTGGGG CTGTGGCCCTGGTTACCATTGCCTTCTTGCTTTAGTGTGTTGGTATGTTCATAGGAATGGAT CGCTCTTCTCAAGGAACTGTGCATATAGCAAAGGGAGGAGAAGAAAGGATGACTATGCAGA AGCTGGCACTAAGAAGGACAACTCTATCCTGGAAATCAGGGAAACTTCTTTTCAGATGTTAC CAATAAGCAATGAACCCATCTCGAAGGAGGAGTTTGTAATACACACCATATTTCCTCCTAATG GAATGAATCTGTACAAAAACAATCACAGTGAAAGCAGTAGTAACCGAAGCTACAGAGACAGT GGTATTCCAGACTCAGATCACTCACACTCATGATGCTGAAGGACTCACAGCAGACTTGTGTT TTGGGTTTTTTAAACCTAAGGGAGGTGATGGTAGGAACCCTGTTCTACTGCAAAACACTGGA AAAAGAGACTGAAAAAAAGCAATGTACTGTACATTTGCCATATAATTTATATTTAAGAACTTTT TATTAAAAGTTTCAAATTTCAGGTTACTGCTGCGATTGATGTAGTGGAGATGCCTGAACACAA TTCTATATTTTAGTATTTTTAGTAATTTGTACTGTATTTTCCTTGCAAATATTGGAGTTATAAA CCATTTACTTTGTGTTCTACTGAGTAAGATGACTTGTTGACTGTGAAAGTGAATTTTCTTGCT GTGTCGAACAATCAGGACTGCATTCATATGAGATCCTTGTAGTATAAGCACAGGCCATTTTTC ACTITGGTATTAATAAAATGTAAAAAAAAAAAAACTGGCTGAATGGCTGAATGAGATAAAATTTA ATTTTAAAAAAATGGTTATGAAATAATGTTCCAATTATTAAATTTGTATTATCCCAGTGGTATTC AATAAATCAAAATGTGTGAAGTAATGGGCAATATCAAACTTCCTGCATATCTCCATTTTTGCTC TAGGCAAATTAATTATCCTTAAAAAAGTTAAGCATATCTTCTGAACTGAATACATCAGCTGGC ATAAAAGGAGCATGAAGTCTGTTAAAGCCATTGTCAGCAAAGCTTTGAAAAATAAAGGACTTCA CATTTTCGGTAATGTAAATGTGCTTCCAAGTTGGGGGGAAAATGTGTACTTAGGAAAACATG GAAACTTAGACTTGTATAG >70

NNNNNNNNNNATTCTCAGGGCAGTCCCCGCTGTGTCCTCTGTTCTCCTTCAGTAAT ATAGTTCATCTGGATTCGCTCCAATCTAGTTTTAAACTAGCTTTGGTCTTCTCATCTTTTCGGT ACAACACATTTCAACTATTATACTTCTACTTTTTTTCTTGTACACTCAGATCCATGGCACCTCA TTTTTACACTGGAGTAAACATCAATATATGTTCCACAATCTGTTGAGAAGTTGCCTGAATGTT CCCTAATAGCTACTTGCTGCCCTATTCTGAATATTCTGGTTTCTGAATATTCTGGTTCTTTTCT TTTCCGTATATTCTTCTAGTCGAAGAACCACTTGGTCCAGTACTGGGAACAGAGCTCGGCAT GCCATGAAATGTGGGTGGGCAGTTGATCCATCTTTGTAGGCCACCACAATTAAGCCACATTG AACCTGAAAGCTGTAGTTGGTATCATGGTTCATGGCACCCATGTATGCCACAACTTGCAGTG AGAGCTTGCCCTGATACTCAGCCACACAGTCCAGCAGACCTATATAGTTTAAGGTTTCATGT TGAACAGCACTITCAAGAGCTCGCACTCCACTGACATCTTTCAGAATATGCTGGACACTTTCA ATGTAACCAGACTTGAGGAGATTTTCATCTCTCTCTTTTAAGGTTTCCTGGGGTGAAAGTATG CTTTCCAAGGCTTCGTGGAACCGTTTCCCTTGTAAAAAGACGTTTGAAGTGTATTCTTTAAAG CCATCTTCTCCCAGTTCCAGAATCATCCGCTGTTTCCACCTCTCCAACAAGAAAACCTGTTGT TTTGTCATGGTCTGAAGGACTCGGGTCACACTTGGTATCACATTCCTTTGCAAGGGGAT TTTCAAAGGAACTGAAGGATCACTTGCATTTGGTTTATCACTTCTCTGGATTGAAGATAGG GTCCACAGAGCAAAGCATCTTCCTCCACCGATCCCGGGGTCTGGGCGACGCCTCTGGATGA CAAGACAGACTGAACTAAATTAGAGTATTTTTCTTGGTCCACTTCTTCATATGGGTTCACTTTT TTCTTCCGGCCACATGAGTAAGAGGAAGTAGAGAAAGCCACAAGGGCAGCTGATTCCACAG

Table 4

GTTTTCACTTTAGTCTATTTTGCAACGGTCGAAGGCCTTTATGTTTGTATTCCTTGGAAGCCACCACACCTCCGCTTAACTCTCAAGGCGCGAACAACCTCTCGCGACCCGN

GATTGGAGCTCCCCGCGTGGCGCCGAGGTACTTGAAGGATAAGAAATTACTGTG TCAAATTACCCACAAGTTAAATGCCCATGTTCCAGACCTGTGGCTCTTAGTATCAGGCTTGTG ATAGAGAAAAGGCTGCTATGAATTCTACTCAGTGTGCTTAGACCAAAGGAAACCACCACAGG GATTTCACAGGC

>72

>73

>74

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CACGCGTCCGCCCacgcgTCCGGTCCTTCAgaCTGCCCGGAGAGCGCGCTCTGCCTG AGGTGGTGGAAGAACTGTGGCAGAGGTGACTGAGGTATCTGTGGGAGCTAATCCTGTCCA GGTGGAAGTAGGAGAATTTGATGATGGTGCAGAGGAAACCGAAGAGGGGGGTGGTGGCGGA AAATCCCTGCCAGAACCACCACTGCAAACACGACAAGGATCTTGTGATCTAAATCCACTCCT TCCACAGTACCGGATTCTCTTTTAACCCTCCCCTTCGTGTTTCCCCCAATGTTTAAAATGTT TGGATGGTTTGTTCTGCCTGGAGACAAGGTGCTAACATAGATTTAAGTGAATACATTAAC GGTGCTAAAAATGAAAATTCTAACCCAAGACATGACATTCTTAGCTGTAACTTAACTATTAAG GCCTTTTCCACACGCATTAATAGTCCCATTTTTCTCTTGCCATTTGTAGCTTTGCCCATTGTCT TATTGGCACATGGGTGGACACGGATCTGCTGGGCTCTGCCTTAAACACACATTGCAGCTTCA ACTITICTCTTTAGTGTTCTGTTTGAAACTAATACTTACCGAGTCAGACTTTGTGTTCATTTCA TTTCAGGGTCTTGGCTGCCTGTGGGCTTCCCCAGGTGGCCTGGAGGTGGCCAAAGGGAAG TAACAGACACACGATGTTGTCAAGGATGGTTTTGGGACTAGAGGCTCAGTGGTGGGAGAGA TCCCTGCAGAACCCACCAACCAGAACGTGGTTTGCCTGAGGCTGTAACTGAGAGAAGATT CTGGGGCTGTCTTATGAAAATATAGACATTCTCACATAAGCCCAGTTCATCACCATTTCCTCC TTTACCTTTCAGTGCAGTTTCTTTTCACATTAGGCTGTTGGTTCAAACTTTTGGGAGCACGGA CTGTCAGTTCTCTGGGAAGTGGTCAGCGCATCCTGCAGGGCTTCTCCTCCTCTGTCTTTTGG AGAACCAGGGCTCTTCTCAGGGGCTCTAGGGACTGCCAGGCTGTTTCAGCCAGGAAGGCC AAAATCAAGAGTGAGATGTAGAAAGTTGTAAAATAGAAAAAGTGGAGTTGGTGAATCGGTTG TTCTTTCCTCACATTTGGATGATTGTCATAAGGTTTTTAGCATGTTCCTCCTTTTCTTCACCCT CCCCTTTTTCTTCTATTAATCAAGAGAAACTTCAAAGTTAATGGGATGGTCGGATCTCACAG GCTGAGAACTCGTTCACCTCCAAGCATTTCATGAAAAAGCTGCTTCTTATTAATCATACAAAC TCTCACCATGATGTGAAGAGTTTCACAAATCTTTCAAAAATAAAAAGTAATGACTTAGAAACTG CCTTCCTGGGTGATTTGCATGTGTCTTAGTCTTAGTCACCTTATTATCCTGACACAAAAACAC ATAAGCATACATGTCTACACATGACTACACAAATGCAAACCTTTGCAAACACATTATTATGCTT

Table 4

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TCCCTCTTGCCTGGATCTCTCACCTTCATAAATCTAGTTTACTCCTTTTTTTN
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Table 4

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AAGTTGTGT

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>96 >97

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>98

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Table 4

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>104

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>106

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>107

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>108

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>111

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>112

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>114

>115

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>117

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>118

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Table 4

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AGGGCAGCTGGACCAGTAGTACAAAGCACCAGGAGTTAATACCATTCTGGTGAAGGGGATG GTTTTACAAAAGTGAAGGAGCAGGCAGGAGCCACCAGGTTCTGAGGCCAGGCCCAGCCTAC TGCCCAGAACCCCTGAAACGGCTCCCTGGGAAAAAGCTGACAGATGGGTCAGGGGTGGATT GAGCTGGAAACCATGGGGACAGATGGCAGGGATAGAGGGTCATGCAGTGGGAACCACCCA GTGGCTGATAAGGACAGGGAACTTGTGGCTGGAGGCTCCCCATTGGGCCATGGGCAGGGG CTTGCAGATGGCCTCAGCTCTGGGGGCAGGTAGAGAAACTGCAGAGACTGATGGGCATGG AGAACCCAGACATGGCCCTGGGGCTGAAGGGCCTTTCCACCCTCTCTCACCAGGAGCCAC CTTTGCTCTATACTACATATGGGGCTTCAGGGCCCAAGGCACAGGGGAGGCTCAGAGGCCT CCAGTTGGGAGGAAGATGGGGCAAGGAAGGAAGCACTTGAGTGTCCCTAGCTTAGGCAGC CGGGGATGAGACACAGGCAGGACAACAGCACCCCGCATAGTGGGGCTAGAATGTGGGAC AGGGACGGCTTATCCTCGGCCAGTGACTAGGACCAGCCCCATGGCAATGGTGCCTGTCTC CAGCCTTAGCAAATCAAGTGTGCAACAAGCACAGGGTGTCGGCAGACCTGGGCTCTAGCCT TACAAGCTCTGCCAGAACTTGAATCACACAGAGCTGTATCACCATGGTCCAGCCATGTCCTG CCTTGGCCTGTTTCCTCCTCTGTCAATGAGGGCTTTGAATAAGACCTCCTAGGTCATGAAAA GGACTCTGCAGGTGAAGGGAACTCCAGGACCTGCTCTTGGCAGTTAAGCAGACCCTGGATG GAACTGGTATGGGATGGGGTGAAGTGGGGGGATGGAGGAGGTGTTCTTGCATGGAAC CTATCCCCACAAACACTACAGAGTGAGGAAAGGCCACTGGAAGCCCTTCTTTGCCCAGAGG AAGAAAGGCCACAGAGAGAGIGAAIGIGGCIIGGTGGAAIGCCTTCACATCCTCCACCATCT GGGTAACACTTGGCAAGGAGTGGATGGGTGGCATTGTGCAACCCTTTATGTTCTTCCCTGG GGGTGGCACTCAAGGCCTCTTGTGGCTTCTGCCTTCAGCCTTCAGTGTAGGGTCAAGAGTG GTTGGTGAGGAAAGGACAGAGTGGGTGAGTAAGCAGACAGGGAGGTAAGAGTGACTCTCT GGCTTTCTCCTCTTCCAGAGAGCAGCTCAATCAACTGAGTCGCAGATCTCCTCCACC ACAGCATTGAAGATGTGTGGCTGGTCAGCATAGACATGGTGGGAGGCACCCTTAATCTCCA CAGGTGTCGGACCCGTAGATCATAGTGATAGGCACATCTTTTCGAATCAAGTGAATTCGCTC CAGCATAGGGCGCCGGGCCCAAAGGACTCCATCATGGCTTTGAATGCTGTCTCACCA CTGGGATTCTGTGCGTTGCAGTGGTAAATATACTCTGATATGGTATCATCTTCAAAGAAGTCT GCAAACTTGCGTTTGAAGTCCGGCCGGAATCGCTGCACCAGACCAGGCCCCCAGGGCCCA GCTACTCGAAGAACAGCCAATGGATTGGAACGTCCTAGGACAGATGCCACGGCTTTGACCC AGGCTGGGGTGCACGGATCTCACTGGGGTTAGTTGGTCGGAGGGGAAAGCCCCATGGGT CCTCCCAAACTGTGCCCCAGGAGGATCATGCTGGGGATCCCCATGGTCTCCCGCCATGTCT CTATCGATGTCACAAACTCATCCTCAGCCCCCTCCGGGTCCCTTGGGAATGCTGGCCTTGA GCTTCGCCCGAAGCCAAGCAGATCGAAGGTGTGCAGTGTGCGGCGGGCACTCAGTGAGTC CATGTTGAGGATCCAGAGACCCACGCCGCCCCAAAACCATGCACCATCACCAAGGGGGTG CATATCTGGCCAGGAACTTATTCTGGAGACACTGGAGGATCCTGGCTTCCACATTCTTCAGC CCCTTCTGTCGTCTTCTCGCAGCCGTAGTCGACGCGGCCGCGAANN >159

GTGGCAGGCCATGCATGAGCCTCGGACTTTTGCTGTATATCTTAACAACACTGGCTACAGAA CAGCCTTTTTTGGAAAATACCTCAATGAATATAATGGCAGCTACATCCCCCCTGGGTGGCGA GAATGGCTTGGATTAATCAAGAATTCTCGCTTCTATAATTACACTGTTTGTCGCAATGGCATC AAAGAAAAGCATGGATTTGATTATGCAAAGGACTACTTCACAGACTTAATCACTAACGAGAGC ATTAATTACTTCAAAATGTCTAAGAGAATGTATCCCCATAGGCCCGTTATGATGGTGATCAGC CACGCTGCGCCCCACGGCCCCGAGGACTCAGCCCCACAGTTTTCTAAACTGTACCCCAATG CTTCCCAACACATAACTCCTAGTTATAACTATGCACCAAATATGGATAAACACTGGATTATGC AGTACACAGGACCAATGCTGCCCATCCACATGGAATTTACAAACATTCTACAGCGCAAAAGG CTCCAGACTTTGATGTCAGTGGATGATTCTGTGGAGAGGCTGTATAACATGCTCGTGGAGAC GGGGGAGCTGGAGAATACTTACATCATTTACACCGCCGACCATGGTTACCATATTGGGCAGT TTGGACTGGTCAAGGGGAAATCCATGCCATATGACTTTGATATTCGTGTGCCTTTTTTTATTC GTGGTCCAAGTGTAGAACCAGGATCAATAGTCCCACAGATCGTTCTCAACATTGACTTGGCC CCCACGATCCTGGATATTGCTGGGCTCGACACCCTCCTGATGTGGACGGCAAGTCTGTCC GAATATCCAACAGTCAAATCACTTGCCCAAATATGAACGGGTCAAAGAACTATGCCAGCAGG CCAGGTACCAGACAGCCTGTGAACAACCGGGGCAGAAGTGGCAATGCATTGAGGATACATC TGGCAAGCTTCGAATTCACAAGTGTAAAGGACCCAGTGACCTGCTCACAGTCCGGCAGAGC **ACGCGGAACCTCTACGCTCGCGGCTTCCATGACAAAGACAAAGAGTGCAGTTGTAGGGAGT** CTGGTTACCGTGCCAGCAGAAGCCAAAGAAAGAGTCAACGGCAATTCTTGAGAAACCAGGG GACTCCAAAGTACAAGCCCAGATTTGTCCATACTCGGCAGACACGTTCCTTGTCCGTCGAAT TTGAAGGTGAAATATATGACATAAATCTGGAAGAAGAAGAAGAATTGCAAGTGTTGCAACCA AGAAACATTGCTAAGCGTCATGATGAAGGCCACAAGGGGCCAAGAGATCTCCAGGCTTCCA GTGGTGGCAACAGGGGCAGGATGCTGGCAGATAGCAGCAACGCCGTGGGCCCACCTACCA TGTACCAATCGCCAGAGCGTGGAAGGACCATAAGGCATACATTGACAAAGAGATTGAAGC AGGAATGTAGCTGCAGTAAACAAAGCTATTACAATAAAGAGAAAGGTGTAAAAAAAGCAAGAG AAATTAAAGAGCCATCTCACCCATTCAAGGAGGCTGCTCAGGAAGTAGATAGCAAACTGCA GAAGGGGGAAGAGTGCAGCCTGCCTGGCCTCACTTGCTTCACGCATGACAACAACCACTGG CAGACAGCCCCGTTCTGGAACCTGGGATCTTTCTGTGCTTGCACGAGTTCTAACAATAACAC CTACTGGTGTTTGCGTACAGTTAATGAGACGCATAATTTTCTTTTCTGTGAGTTTGCTACTGG CTTTTTGGAGTATTTTGATATGAATACAGATCCTTATCAGCTCACAAATACAGTGCACACGGT AGAACGAGGCATTTTGAATCAGCTACACGTACAACTAATGGAGCTCAGAAGCTGTCAAGGAT ATAAGCAGTGCAACCCAAGACCTAAGAATCTTGATGTTGGAAATAAAGATGGAGGAAGCTAT GACCTACACAGAGGACAGTTATGGGATGGATGGGAAGGTTAATCAGCCCCGTCTCACTGCA TGCACTGCTGAAGAGTCACTATGAGCAAAATAAAACAAATAAGACTCAAACTGCTCAAAGTG ACGGGTTCTTGGTTGTCTCTGCTGAGCACGCTGTGTCAATGGAGATGGCCTCTGCTGACTC AGATGAAGACCCAAGGCATAAGGTTGGGAAAACACCTCATTTGACCTTGCCAGCTGACCTTC AAACCCTGCATTTGAACCGACCAACATTAAGTCCAGAGAGTAAACTTGAATGGAATAACGAC ATTCCAGAAGTTAATCATTTGAATTCTGAACACTGGAGAAAAACCGAAAAATGGACGGGGCA TGAAGAGACTAATCATCTGGAAACCGATTTCAGTGGCGATGGCATGACAGAGCTAGAGCTC GGGCCCAGCCCAGGCTGCAGCCCATTCGCAGGCACCCGAAAGAACTTCCCCAGTATGGT GGTCCTGGAAAGGACATTTTTGAAGATCAACTATATCTTCCTGTGCATTCCGATGGAATTTCA GTTCATCAGATGTTCACCATGGCCACCGCAGAACACCGAAGTAATTCCAGCATAGCGGGGA AGATGTTGACCAAGGTGGAGAAGAATCACGAAAAGGAGAAGTCACAGCACCTAGAAGGCAG CGCCTCCTCTCACTCTCTCTGATTAGATGAAACTGTTACCTTACCCTAAACACAGTATTTC TTTTTAACTTTTTTATTTGTAAACTAATAAAGGTAATCACAGCCACCAACATTCCAAGCTACCC TGGGTACCTTTGTGCAGTAGAAGCTAGTGAGCATGTGAGCAAGCGGTGTGCACACGGAGAC TTGGTTTTGATTTTTTGCTTGTTTGTTTTGTACTAAAACAGTATTATCTTTTGAATATCGT AGGGACATAAGTATATACATGTTATCCAATCAAGATGGCTATAATGGGCTTTCTCAGAGATAA

Table 4

AACTTGACCCCGTGTCAAATTGACATCACACTCTGCATGTCTGCGTAATGAAGGTACGATG CAACTATAACCAGTGCAATATGACACTGACACTATATTAAATTCAATAATACNN >160

NNCACGCGTCCGGCTAATGAATCTTGGGGCCGGTGTCGGGCCGGGGCGGCTTGAT CGGCAACTAGGAAACCCCAGGCGCAGAGGCCAGGAGCGAGGGCAGCGAGGATCAGAGGC CAGGCCTTCCCGGCTGCCGGCGCTCCTCGGAGGTCAGGGCAGATGAGGAACATGACTCTC CCCCTTCGGAGGAGGAAGGACCCCCCCTCCCCTTATCTCTGCTCCTCCTCCCCC TGTTCCCAGAGCTTTTCTCTAGAGAGATTTTGAAGGCGGCTTTTGTGCTGACGGCCACCC ACCATCATCTAAAGAAGATAAACTTGGCAAATGACATGCAGGTTCTTCAAGGCAGAATAATTG CAGAAAATCTTCAAAGGACCCTATCTGCAGATGTTCTGAATACCTCTGAGAATAGAGATTGAT TATTCAACCAGGATACCTAATTCAAGAACTCCAGAAATCAGGAGACGGAGACATTTTGTCAG TTTTGCAACATTGGACCAAATACAATGAAGTATTCTTGCTGTGCTCTGGTTTTGGCTGTCCTG GGCACAGAATTGCTGGGAAGCCTCTGTTCGACTGTCAGATCCCCGAGGTTCAGAGGACGGA TACAGCAGGAACGAAAAAACATCCGACCCAACATTATTCTTGTGCTTACCGATGATCAAGAT GTGGAGCTGGGGTCCCTGCAAGTCATGAACAAACGAGAAAGATTATGGAACATGGGGGGG CCACCTTCATCAATGCCTTTGTGACTACACCCATGTGCTGCCCGTCACGGTCCTCCATGCTC ACCGGGAAGTATGTGCACAATCACAATGTCTACACCAACAACGAGAACTGCTCTTCCCCCTC GTGGCAGGCCATGCATGAGCCTCGGACTTTTGCTGTATATCTTAACAACACTGGCTACAGAA CAGCCTTTTTTGGAAAATACCTCAATGAATATAATGGCAGCTACATCCCCCCTGGGTGGCGA GAATGGCTTGGATTAATCAAGAATTCTCGCTTCTATAATTACACTGTTTGTCGCAATGGCATC AAAGAAAAGCATGGATTTGATTATGCAAAGGACTACTTCACAGACTTAATCACTAACGAGAGC ATTAATTACTTCAAAATGTCTAAGAGAATGTATCCCCATAGGCCCGTTATGATGGTGATCAGC CACGCTGCGCCCACGGCCCCGAGGACTCAGCCCCACAGTTTTCTAAACTGTACCCCAATG CTTCCCAACACATAACTCCTAGTTATAACTATGCACCAAATATGGATAAACACTGGATTATGC AGTACACAGGACCAATGCTGCCCATCCACATGGAATTTACAAACATTCTACAGCGCAAAAGG CTCCAGACTTTGATGTCAGTGGATGATTCTGTGGAGAGGCTGTATAACATGCTCGTGGAGAC GGGGGAGCTGGAGAATACTTACATCATTTACACCGCCGACCATGGTTACCATATTGGGCAGT TTGGACTGGTCAAGGGGAAATCCATGCCATATGACTTTGATATTCGTGTGCCTTTTTTTATTC GTGGTCCAAGTGTAGAACCAGGATCAATAGTCCCACAGATCGTTCTCAACATTGACTTGGCC CCCACGATCCTGGATATTGCTGGGCTCGACACCCTCCTGATGTGGACGGCAAGTCTGTCC GAATATCCAACAGTCAAATCACTTGCCCAAATATGAACGGGTCAAAGAACTATGCCAGCAGG CCAGGTACCAGACAGCCTGTGAACAACCGGGGCAGAAGTGGCAATGCATTGAGGATACATC TGGCAAGCTTCGAATTCACAAGTGTAAAGGACCCAGTGACCTGCTCACAGTCCGGCAGAGC ACGCGGAACCTCTACGCTCGCGGCTTCCATGACAAAGACAAAGAGTGCAGTTGTAGGGAGT CTGGTTACCGTGCCAGCAGAAGCCAAAGAAGAGTCAACGGCAATTCTTGAGAAACCAGGG GACTCCAAAGTACAAGCCCAGATTTGTCCATACTCGGCAGACACGTTCCTTGTCCGTCGAAT TTGAAGGTGAAATATATGACATAAATCTGGAAGAAGAAGAAGAATTGCAAGTGTTGCAACCA AGAAACATTGCTAAGCGTCATGATGAAGGCCACAAGGGGCCAAGAGATCTCCAGGCTTCCA GTGGTGCAACAGGGCAGGATGCTGGCAGATAGCAGCAACGCCGTGGGCCCACCTACCA TGTACCAATCGGCCAGAGCGTGGAAGGACCATAAGGCATACATTGACAAAGAGATTGAAGC AGGAATGTAGCTGCAGTAAACAAAGCTATTACAATAAAGAGAAAGGTGTAAAAAAAGCAAGAG AAATTAAAGAGCCATCTTCACCCATTCAAGGAGGCTGCTCAGGAAGTAGATAGCAAACTGCA GAAGGGGGAAGAGTGCAGCCTGCCTGGCCTCACTTGCTTCACGCATGACAACAACCACTGG CAGACAGCCCCGTTCTGGAACCTGGGATCTTTCTGTGCTTGCACGAGTTCTAACAATAACAC CTACTGGTGTTTGCGTACAGTTAATGAGACGCATAATTTTCTTTTCTGTGAGTTTGCTACTGG CTTTTTGGAGTATTTTGATATGAATACAGATCCTTATCAGCTCACAAATACAGTGCACACGGT AGAACGAGGCATTTTGAATCAGCTACACGTACAACTAATGGAGCTCAGAAGCTGTCAAGGAT ATAAGCAGTGCAACCCAAGACCTAAGAATCTTGATGTTGGAAATAAAGATGGAGGAAGCTAT GACCTACACAGAGGACAGTTATGGGATGGATGGGAAGGTTAATCAGCCCCGTCTCACTGCA

TGCACTGCTGAAGAGTCACTATGAGCAAAATAAAACAAATAAGACTCAAACTGCTCAAAGTG ACGGGTTCTTGGTTGTCTCTGCTGAGCACGCTGTGTCAATGGAGATGGCCTCTGCTGACTC AGATGAAGACCCAAGGCATAAGGTTGGGAAAACACCTCATTTGACCTTGCCAGCTGACCTTC AAACCCTGCATTTGAACCGACCAACATTAAGTCCAGAGAGTAAACTTGAATGGAATAACGAC ATTCCAGAAGTTAATCATTTGAATTCTGAACACTGGAGAAAAACCGAAAAATGGACGGGGCA TGAAGAGACTAATCATCTGGAAACCGATTTCAGTGGCGATGGCATGACAGAGCTAGAGCTC GGGCCCAGCCCCAGCCCATTCGCAGGCACCCGAAAGAACTTCCCCAGTATGGT GGTCCTGGAAAGGACATTTTTGAAGATCAACTATATCTTCCTGTGCATTCCGATGGAATTTCA GTTCATCAGATGTTCACCATGGCCACCGCAGAACACCGAAGTAATTCCAGCATAGCGGGGA AGATGTTGACCAAGGTGGAGAAGAATCACGAAAAGGAGAAGTCACAGCACCTAGAAGGCAG CGCCTCCTCTCACTCCTCTGATTAGATGAAACTGTTACCTTACCCTAAACACAGTATTTC TTTTTAACTTTTTTATTTGTAAACTAATAAAGGTAATCACAGCCACCAACATTCCAAGCTACCC TGGGTACCTTTGTGCAGTAGAAGCTAGTGAGCATGTGAGCAAGCGGTGTGCACACGGAGAC TTGGTTTTGATTTTTTGCTTGTTTGTTTTGTACTAAAACAGTATTATCTTTTGAATATCGT AGGGACATAAGTATACATGTTATCCAATCAAGATGGCTATAATGGGCTTTCTCAGAGATAA AACTTGACCCCCGTGTCAAATTGACATCACACTCTGCATGTCTGCGTAATGAAGGTACGATG CAACTATAACCAGTGCAATATGACACTGACACTATATTAAATTCAATAATACNN

NNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNGGGGTGTGGGGTGGGGTGGGG GGGGGGGGGGGGTGTCTGGCAGTCTTTCAGGGTGCAATTTTGTTTATATACACTGTAT GTATATATTTCTTTTAGATTTGGCTGTAGTGGACTGGCCATGGTTCAAGTGGGACTATAGCAG TACATGGGTCAGGGACAGTCATTTTGGCTATGTACACATTCATAGTCGGTCCATGGCTTCCA ACTAGTAGCGCTATTTCCGAAGGTCTAATACACAAACTGAACCATCTGATGCACTGGCTCCA ACTITGTCTCCTGCTGCATTCCAGCAAACTTCAAATATTCCACCTGTTCCCCTATAGCTGTGA ACTAGAGCACCTGTCTGCGTGTTCCAGATGTGTACACATTTGTCAAAAGAACCACTTGCCAG ATACCTGCCATCAGGACTGAAAGCTACACTGTACACAGGCTCTTGGTGTTTTTGTCAAGGTAT GGATGCATATCCCTCGGTCTACATCCCATAACCTAACAGTAGAATCAAAGGATGCACTTGCT AACATAAGGTTGGCATTTGGATTATTAGTCCCTGGTCCTGTTGGACTCCATTTGATAGTATAA ATTTCTTTATTATGTGCTTGCAAATCATGGACACAATTGTCTTGTTTCATACTCCATATCTTTAA AGTCATGTCGTCAGAACAGGAGGCCAAGAGATTGCCAGTTGGGTCCCATTTGATAGCATTTA GCACATATCTGTACTACAAGAAGCAAAGGTGTTGTTGCTCTGCCAATCAACATCCAATGCTG GTGCTGAATGAAAAGGAAACTGTTGCTTGGCTTCACCAGTATGTGCGTCCCAAATAATTGTA GTCTTGTCTACTCCAGCACTTAGGATGAAATTTCCTTTCTTATTCCATTTTAATGCAAATATAG GGCCTTTATGCTGCCCTAAGGTGCTAGCAAGGTTACCATCTTTAGTCCATATTCTGGCAAAC CCATCATAGGAACCAGTTGCTAGAAGTGTACCTTCACTATTCCAATCTAGAGATGTGACATCC TTGTTGCTTGGAACATCTTGCCCTCCTTCTCGTATACAATGTCTAAGTACTAACTGTGTAGAG CCACTGGTGCTGTTCTCACTAAGATTCCATATTCTTGCTGTTGAGTCTCCAGACCCTGATGCT AGGAGATCACTAACAGGGTTCCAGGCACAGATAAAAACTTCAGATTCATGGCCCCGCAACAC AACAGTCTTTATTAGGAGGGATTTCAACATCCCCATCCACTTCCATCATATCAGTATGATTATT TGCTATAGTATGTGCTCCATTCTCCCCCATTTGCTGTTTTTCTCCATTTTTTGCAGATCCT TGTTGGCTGGCTGCAGCTGCAGCAGCTGCAGCTGCTGTTGCTGTAGCAAGCTTAT CTCTATAAGCTTGTTGTCTTGTTTGTACTACATCAGGCATTACGGCATCTATCAGGGACAGAG ACTCTATTGGTCGACCATCAAACAAGGTACCATCCTCATTAATACTAACTTCTGCTTCTACAT ACTGTAGACCTTTCTGGATGATAGAAATCAATGCAGCGGGTGGGACGAGGGCACCATTTATA TTGGACTGACTGATATGGCTTTCTATACCAAAGGTAAATGCTGAATGAGAAAATCCTGACTCT TGCAAGTATCTATATACCAAGAAGTTGACCTCATCACTGCTTATACTCATCTTTATTCCCACTT **AAACCATGAGGTCACAACACAGGATATAACCCATTGGCAGTGCATTGATGTGGGGGATGTGCA** ACTGAATATCCGGTCACCGCCAATCACAAGTTGCTGTTGTTGATGCTGGAAACGGTGGCCTC CAACGCCGCTCCCCCCCCGGGAATGGAGGCACAAGGAAATTCCCCCGGACGCGGGGTC GATCCN. >162

CCCCTTCGGAGGAGGAAGGAAGTCCCGCTGCCACCTTATCTCTGCTCCTCTGCCTCCTCCC TGTTCCCAGAGCTTTTTCTCTAGAGAAGATTTTGAAGGCGGCTTTTGTGCTGACGGCCACCC ACCATCATCTAAAGAAGATAAACTTGGCAAATGACATGCAGGTTCTTCAAGGCAGAATAATTG CAGAAAATCTTCAAAGGACCCTATCTGCAGATGTTCTGAATACCTCTGAGAATAGAGATTGAT TATTCAACCAGGATACCTAATTCAAGAACTCCAGAAATCAGGAGACGGAGACATTTTGTCAG TTTTGCAACATTGGACCAAATACAATGAAGTATTCTTGCTGTGCTCTGGTTTTTGGCTGTCCTG GGCACAGAATTGCTGGGAAGCCTCTGTTCGACTGTCAGATCCCCGAGGTTCAGAGGACGGA TACAGCAGGAACGAAAAACATCCGACCCAACATTATTCTTGTGCTTACCGATGATCAAGAT GTGGAGCTGGGGTCCCTGCAAGTCATGAACAAAACGAGAAAGATTATGGAACATGGGGGGG CCACCTTCATCAATGCCTTTGTGACTACACCCATGTGCTGCCCGTCACGGTCCTCCATGCTC ACCGGGAAGTATGTGCACAATCACAATGTCTACACCAACAACGAGAACTGCTCTTCCCCCTC GTGGCAGGCCATGCATGAGCCTCGGACTTTTGCTGTATATCTTAACAACACTGGCTACAGAA CAGCCTTTTTTGGAAAATACCTCAATGAATATAATGGCAGCTACATCCCCCCTGGGTGGCGA GAATGGCTTGGATTAATCAAGAATTCTCGCTTCTATAATTACACTGTTTGTCGCAATGGCATC AAAGAAAAGCATGGATTTGATTATGCAAAGGACTACTTCACAGACTTAATCACTAACGAGAGC ATTAATTACTTCAAAATGTCTAAGAGAATGTATCCCCATAGGCCCGTTATGATGGTGATCAGC CACGCTGCGCCCCACGGCCCCGAGGACTCAGCCCCACAGTTTTCTAAACTGTACCCCAATG CTTCCCAACACATAACTCCTAGTTATAACTATGCACCAAATATGGATAAACACTGGATTATGC AGTACACAGGACCAATGCTGCCCATCCACATGGAATTTACAAACATTCTACAGCGCAAAAGG CTCCAGACTTTGATGTCAGTGGATGATTCTGTGGAGAGGCTGTATAACATGCTCGTGGAGAC GGGGGAGCTGGAGAATACTTACATCATTTACACCGCCGACCATGGTTACCATATTGGGCAGT TTGGACTGGTCAAGGGGAAATCCATGCCATATGACTTTGATATTCGTGTGCCTTTTTTTATTC GTGGTCCAAGTGTAGAACCAGGATCAATAGTCCCACAGATCGTTCTCAACATTGACTTGGCC CCCACGATCCTGGATATTGCTGGGCTCGACACACCTCCTGATGTGGACGGCAAGTCTGTCC GAATATCCAACAGTCAAATCACTTGCCCAAATATGAACGGGTCAAAGAACTATGCCAGCAGG CCAGGTACCAGACAGCCTGTGAACAACCGGGGCAGAAGTGGCAATGCATTGAGGATACATC TGGCAAGCTTCGAATTCACAAGTGTAAAGGACCCAGTGACCTGCTCACAGTCCGGCAGAGC ACGCGGAACCTCTACGCTCGCGGCTTCCATGACAAAGACAAAGAGTGCAGTTGTAGGGAGT CTGGTTACCGTGCCAGCAGAAGCCAAAGAAGAGTCAACGGCAATTCTTGAGAAACCAGGG GACTCCAAAGTACAAGCCCAGATTTGTCCATACTCGGCAGACACGTTCCTTGTCCGTCGAAT TTGAAGGTGAAATATATGACATAAATCTGGAAGAAGAAGAAGAATTGCAAGTGTTGCAACCA AGAAACATTGCTAAGCGTCATGATGAAGGCCACAAGGGGCCAAGAGATCTCCAGGCTTCCA GTGGTGCAACAGGGCAGGATGCTGGCAGATAGCAGCAACGCCGTGGGCCCACCTACCA TGTACCAATCGGCCAGAGCGTGGAAGGACCATAAGGCATACATTGACAAAGAGATTGAAGC AGGAATGTAGCTGCAGTAAACAAAGCTATTACAATAAAGAGAAAGGTGTAAAAAAAGCAAGAG AAATTAAAGAGCCATCTTCACCCATTCAAGGAGGCTGCTCAGGAAGTAGATAGCAAACTGCA **ACTITICAAGGAGAACAACCGTAGGAGGAAGAAGAGGAGGAAGAAGACGGCAGAG** GAAGGGGGAAGAGTGCAGCCTGCCTGGCCTCACTTGCTTCACGCATGACAACAACCACTGG CAGACAGCCCCGTTCTGGAACCTGGGATCTTTCTGTGCTTGCACGAGTTCTAACAATAACAC CTACTGGTGTTTGCGTACAGTTAATGAGACGCATAATTTTCTTTTCTGTGAGTTTGCTACTGG CTTTTTGGAGTATTTTGATATGAATACAGATCCTTATCAGCTCACAAATACAGTGCACACGGT AGAACGAGGCATTTTGAATCAGCTACACGTACAACTAATGGAGCTCAGAAGCTGTCAAGGAT ATAAGCAGTGCAACCCAAGACCTAAGAATCTTGATGTTGGAAATAAAGATGGAGGAAGCTAT GACCTACACAGAGGACAGTTATGGGATGGATGGAAGGTTAATCAGCCCCGTCTCACTGCA TGCACTGCTGAAGAGTCACTATGAGCAAAATAAAACAAATAAGACTCAAACTGCTCAAAGTG ACGGGTTCTTGGTTGTCTCTGCTGAGCACGCTGTGTCAATGGAGATGGCCTCTGCTGACTC AGATGAAGACCCAAGGCATAAGGTTGGGAAAACACCTCATTTGACCTTGCCAGCTGACCTTC AAACCCTGCATTTGAACCGACCAACATTAAGTCCAGAGAGTAAACTTGAATGGAATAACGAC ATTCCAGAAGTTAATCATTTGAATTCTGAACACTGGAGAAAAACCGAAAAATGGACGGGGCA TGAAGAGACTAATCATCTGGAAACCGATTTCAGTGGCGATGGCATGACAGAGCTAGAGCTC

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>164

>165

CACTATTTTTTTTTTTTGAGATGGAGTCTCGCTCTGTCGCCCAGGCTGGAGTGCA ATGGCACAATCTCAGCTCACCGCAACCTCCACCTCCCAAGGTTCAAGTGATTCTCTTGCCTC GGGGAGACATCCCTCAGTGCTTAGACATATTCTGAGCCTACAGCAGAGGAACCTCCAGTCT CAGCACCATGAATCAAACTGCCATTCTGATTTGCTGCCTTATCTTTCTGACTCTAAGTGGCAT TCAAGGAGTACCTCTCTCTAGAACTGTACGCTGTACCTGCATCAGCATTAGTAATCAACCTGT TAATCCAAGGTCTTTAGAAAAACTTGAAATTATTCCTGCAAGCCAATTTTGTCCACGTGTTGA GATCATTGCTACAATGAAAAAGAAGGGTGAGAAGAGGTGTCTGAATCCAGAATCGAAGGCCA TCAAGAATTTACTGAAAGCAGTTAGCAAGGAAAGGTCTAAAAGATCTCCTTAAAACCAGAGG GGAGCAAAATCGATGCAGTGCTTCCAAGGATGGACCACAGAGGCTGCCTCTCCCATCAC TTCCCTACATGGAGTATATGTCAAGCCATAATTGTTCTTAGTTTGCAGTTACACTAAAAGGTG ACCAATGATGGTCACCAAATCAGCTGCTACTACTCCTGTAGGAAGGTTAATGTTCATCATCCT AAGCTATTCAGTAATAACTCTACCCTGGCACTATAATGTAAGCTCTACTGAGGTGCTATGTTC TTAGTGGATGTTCTGACCCTGCTTCAAATATTTCCCTCACCTTTCCCATCTTCCAAGGGTATA AGGAATCTTTCTGCTTTGGGGTTTATCAGAATTCTCAGAATCTCAAATAACTAAAAGGTATGC AATCAAATCTGCTTTTTAAAGAATGCTCTTTACTTCATGGACTTCCACTGCCATCCTCCAAG GGGCCCAAATTCTTTCAGTGGCTACCTACATACAATTCCAAACACATACAGGAAGGTAGAAA TATCTGAAAATGTATGTAAGTATTCTTATTTAATGAAAGACTGTACAAAGTAGAAGTCTTAG **ATGTATATTTCCTATATTGTTTTCAGTGTACATGGAATAACATGTAATTAAGTACTATGTATC AATGAGTAACAGGAAAATTTTAAAAAATACAGATAGATATATGCTCTGCATGTTACATAAGATAA**

>166

>167 >168

>169

Table 4

CAGTTGAGGGGAGATAGGCAATCAAATATACAATTATAATACAGAATACATTCAATAATAGTG GAAGTACCTGCCCGGGCGCN >170

ATATATTATCTTATAGAAATAACTAAGGGAAGTTAGTGCCTTGTGACCACATCTATGT GACTTTTAGGCAGTAAGAAACTATAAGGAAAGGAGCTAACAGTCATGCTGTAAGTAGCTACA GGGAATTGGCTTAAAGGGCAAGCTGGTTAGTACTTAGCTGTTTTTTATTCAAAGTCTACATT TTATGTAGTGGTTAATGTTTGCTGTTCATTAGGATGGTTTCACAGTTACCATACAAATGTAGA AGCAACAGGTCCAAAAAGTAGGGCATGATTTTCTCCATGTAATCCAGGGAGAAAACAAGCCA TGACCATTGTTGGTTGGGAGACTGAAGGTGATTGAAGGTTCACCATCATCCTCACCAACTTT TGGGCCATAATTCACCCAACCCTTTGGTGGAGCCTGAAAAAAATCTGGGCAGAATGTAGGAC TTCTTTATTTTGTTTAAAGGGGTAACACAGAGTGCCCTTATGAAGGAGTTGGAGATCCTGCAA GGAAGAGAAGGAGTGAAGGAGAGATCAAGAGAGAAACAATGAGGAACATTTCATTTGAC CCAACATCCTTTAGGAGCATAAATGTTGACACTAAGTTATCCCTTTTGTGCTAAAATGGACAG TATTGGCAAAATGATACCACAACTTCTTATTCTCTGGCTCTATATTGCTTTGGAAACACTTAAA CATCAAATGGAGTTAAATACATATTTGAAATTTAGGTTAGGAAATATTGGTGAGGAGGCCTCA AAAAGGGGGAAACATCTTTTGTCTGGGAGGATATTTTCCATTTTGTGGGATTTCCCTGATCTTT TTCTACCACCCTGAGGGGTGTTGGGGGAATTATCATTTTGCTACATTTTCAGAGGTCATCCA **GGATTTTTGAAACTTTACATTCTTTACGGTTAAGCAAGATGTACAGCTCAGTCAAAGACACTA** AATTCCTTCTTAGAAAAAATAGTGCTAAGGAGGNNN >171

NCGGGAAGTTCCAACTGTGGCAGAAATGAAGATGGAACTTCTCAAGAATAAACAGTT TTGGCCGGGTGTGGTGGCTCACGCCTGAAATCCCAGCACTTTGGAAGGCCAAGGTGGGCT GATCACATGAGGCCAGGAGTTCGAGACCAGCCTGGCCAATATGGCAAAACCCCATCTCTAC TAAAAATATAAAAATGAGACGGGCATGGTGGCACACCCTGTAATCCTAGCTACTCAGGAGG CTGAGGCACGAGAGTCGCTTGAACCCAAAAGGCAGAGTTTGCAGTGAGCCAAGATCATGCC GCACTCATCCCCTAGATATCCCCCAAGTGTCTCTCTCCCCTTTGGTCAAGGTTATAACTGG GATAATGATTATGACAGACTGGCTGGGTGTCAGAGGTACAGATTTAAGGTTGATGGACTCAG GGTAAGGATAGCTACAGCTGTGTGGGGCTGAAGGTCTGTGGCACTGAGCTACTGGGGAAG GAGGGCTCTGTTTTCATTGTGACACACTGAGTTAATAAAGCACTTACTGAGGGAGCCAGAGC CCAAACTCTAAATGTGCTGTAGAAAAAGGGCCAAGTCATTGACTGCACCACTCCTTCAGCCA GAGGTAGAAAGGATTTACTCTTCAGCCATCTGGTAGAGCCCCAAGAACAAGTTACATGTGGA GAAAAGGAGGTTTTCTCGTTGGCCAACATGGTGTACCACTTGCGCTGGGCATAGGTGAACA CCCAGGAACGATCACACCCAATGCAGCTATCCCGGGACATGTCCACATCTGCCACTCCT ATCCGGAACTGCTGGGAGCGCTTCACTGTCACTTCCCAGTAGTGTCTGCCACTGGTGACCG **CTGTGTCN** >173

>175

AGGGAGTCCGCCACGCGTCCGCCGGGTTTTAGTTCCTCGGGGAGCCCCTGGTGC CCAGGACACCCGGAAGCCGGAAATGGACTCAGTGGCCTTTGAGGATGTGGCTGTGAACTTC ACCCAGGAGGAGTGGGCTTTGCTGAGTCCTTCCCAGAAGAATCTCTACAGAGATGTGACGC TGGAAACCTTCAGGAACCTGGCCTCGGAATCCAATGGAAAGACCAGGACATTGAGAATCTG TACCAAAACCTGGGGATTAAGCTAAGAAGTCTGGTGGAGAGACTCTGTGGACGTAAAGAAG GGAATGAACACAGAGAAACTTTCAGCCAGATTCCTGATTGTCACCTGAACAAGAAAAGTCAA GGACAGGCACATGAGAGCTCATGCTGGACACAAACGATCTGAGTGTGGTGGGGAATGGAG AGAGACGCCCGTAAACAGAAACAACATGGGAAAGCCTCCATTTCCCCCAGTAGTGGTGGA CGGCGCACAGTAACACCAACTCGAAAGAGACCTTATGAATGCAATGCTGTGCGGGAAAGCC TTTAATTCTCCCCATTAATCTCACATCCATCAAAGGATCTCACACTGGAAAGAGGTCCTATAA TGTAGGAATGTGAGAGCTCCCAGTTTCAGGTTCTTCGAGACGGGAACTGCTTCTGGGAAAA GGTTGATGTAGTCGGGGGAAACCTTGATTCCCGGTTTTCATTCGTAGACTCCGGAAAACCTC ATGTACAGGGAAGCTTTCGAGACGGCAAAATCCCNN >176

tgtgatggcccacaagaatagggaaatgaactagagcacaaaccattttcaacagtcttcagtagtaagtcattcgttggaa CATACAGTGTGCaacAGGGGTGGTACAGTTGGATttgGCATCACCGTTGCATTTACTTGTGATG CATCAGAGACACacCTGTTGAAACATGAGAAAGCATTTCGGCACCCTCAAATGTACTGGGAA AGAAGCTGTAGAAATGATGGATCTTTAAAACATGCTTCTGGATTGAAGGTAGATTGTTGTGG CTGCTGCAAATTTACTGCATTTGTGGAGAGAATCATGCTGGCAAGAAGAGAAGAGCTGTCCAT TACTCTGTAGAAGTTCttgAGCAATttcgGCTCCATCCAGTGGTTtacAGTAAGATCGCTtggATAAG TGCCCACCCAGTGATCTGGGATTAGTAAAAGCCCTGTAACACCTGCTACAGATAAATTTCCC GGGCCCGCCCACGGTCTTTTTTAACTTTTTCAGGTGCAGACTGTTGGGCATTGGTGCTACT GAAGTTATTTGCAACATTCACTTGTGAAGGAAAAACTGCATTTTCACCATTACCCCCCTTTAG AAAGGAGGAATTAGTGTTTCCTTCAATCTGTGAGGAATAATGATTTGTATTATTTTCCAGTTG GGAAAAAACAGAATTAGTCCCACTATCTGCTGGTGAAGGGAAGAGAGACATTGAACTACTTT CTGCAGGTAAAGGAAGGAAAGGATCTGAGCCACTGTCAATATTCAAAGGCAGAACTGTTTTG GTTAGATCTTCCATTTGTGCTGGCAAGGCAGTACTAGGTAAATTTTCCATTTGGGAACATAAC ATACCACCTTGTTCATTTTTATCCTGAGAAGTTATATTTGGATTTATGACACTTTCCATTGAGG ACAACAATGGAGTTGACACACTTGCTAAATGAGCTGGAAAAATGGGTGGCGAGACATGCTG CAACTGGGCCGAACAAGCAGGATTCCCATTGGCTTTGGTCTGTGATGTAAAAAATGGATTTG AGCTGTTCACCGGTGATGGCAAAAAATAAACAAACTTTCCATTATTTGGTGTATTTAAGTTGT TAGCTTTCTGACCTTTTTACTTTTGCGCTGCATTTTAAATGCAGCATATTGGTCAGGGTGTG CTGTCTTCATGTGTTTCCCAATACTCTGTGAAGAATTATAGGTTCGAGTACATCCCTCGACCT GGCAGCTGAATTTCTGAACTGGAGCTTTTGGAGGCACTGATGGAGTTCCTAATGAATTACTT AGGTCGGACTGCGGTGGAACAAATGCAATACTTTCTAATGTCTTAAGAGGTAAATTATAAAGA TTGGATGATGTTTTAACATTATCTCCACATTCAAATTTGGAAGTTGGTAAATTGTTTTGAAATG CTGCCTGATTTTGCACAGAAAAGGTCATCAAGTTGTTCACTTGTCTTTCTAAGTTTTGTGGGG TAAGGTCACCTATTTTGAGAGTTTCTGAATTTACTAAAGAATTCTGAGTAACATGGGCATCAT TAAAGCAATCTTGTTCTTTTCTCCTGGAAACCTGGATGACACAAATCATTACAAGTATCTTC AACTGGCGTATGTAAGTCTGTGACCAGTGCTTCACCACTGCCTTCCACAGTTGAGTTTTCTT GCTTTCCAAAGTTATCCTCAATCCCCTGATTGAGAGACACCTTAATGGACACAGCTACTTCAC TGGATTGAAGTAGAGGAGTAGTAGCAGGGTTTTCCAAACCATTTGACAATGGTCCATTAGCT

TGCCTGAGCTCAGAGGCAGAAATCTGGTCTTGTTTGGTCACAGCTGATTCTGCTTTTGCTTTTATCCCAAGCATCACTTCTATCTGCTAGTAAGCTGttctcaacgTTATTTTCTGAAGGAAGCATAGATCTTCTTTCTCTAATATTCTCTGCTGTTTCTGATTCACTTCAGAAGGCTGAATGGAATCTCCAGATGAATTAAGTTGGGCTTCAGGAGGCAGCACTTTTTCAGGAGGAGGT

>178

NNATGTGGTTACGACCCACTGTATTGAGGTGACGCGATCCATAGGCTGTGGTGTTT GTTTTCGCTGATCCACACACGTTGGGGCACTGTCTATTCATGTGTTCAAGCTGAAGGCTC GTTCTCGGTTGTCATTTTACAGTGTTTTTCTACGGGGTTACATTACAGGAATGTTGTAGCGAC GTTTAGCCCGTGGAGTATCAACGTCTTGAGACTCCGTGTGAGACTCCCTGGTTTGTTCCACA ACAGTGTTTTTAGATTCCGTACCTTTGATTAAGGAACACATCATGCCGTGAAGCCAATTTA TATTCTGCAATTCCGTAGTGCATGTAATGTATTCTGCCGTCTCGTAGTGTGAAGCCATGCTTG GCACATCCAGTTCTTTGATGTCTGGCTGCCTTCTGCGGGCCAACTGTCTTGTGGAATTCGTT GCTCCCAGAGATAGCTTGAACTGCAGATCCCGCACAGCATTGCACTGAGCTGTCGTTGTATC TGAGCCTGGACATGGCGGCCGAGGTACTCACAGTCACGCAAATTCACAGTCTGCGTGCACG GCTCTCCATTCTTCTTCTTGGCTTTACAGGTTCCCAGGTCAAGAGCTTCACCCATAATTAAGA CCTTCTGAGGATGATCGATAGATAAACACACCTCCTCTGAACCATCCTTGGGCTTCATGGGG TTGGCATTGAGGATCCCTACGACAGTCCCCTGCTCCGTCTTCCAGAGCGCTTTGTGAACTTC TCCAAATAAGAACAAGGACACACATTGTGTCAGGTCACGAAGATCATTCAGTTTCCATATGCT GAAGGTTTTTCCACTATTCACACTCTGTGGCGTAACCTTCTTCAATATAACCCCAAATGTCAC CCAATCTATTTCTTCCAGCTTCTCTCTGGCCATCTTTTCCTTGATCTGAGACAGTCTGATCAG TTTTCGGCCGGTCATGTGTCTTCGTTCATATTCTCTGGAGGATACTCGAGCCCGCCTCGAGC CGCAGACCAGGAGAAGGCTTCCACACAGATGGCGATTGAGTCGTTTCCTCACAGAACTTTC **ACTCGGGGTCCACCACATATTTGACCTCTAGTTATCCCACTAGGTTTGTTCCGAGAAATCGT** CTGTAGGGGTTGGGAGGTGCACTTGTCATCCTTGAAGATGAGCTTTTGGGATCTGGAGGT GAAGCCTTTGGTGTTCGAGCCACCCTCTTGGTTCTTGGTAGCGCAGGGACATCAAGCTCCG CAGAAAAGCATGTTGACTCCTGAATTCTCTGAACTCTCCTCTCCTTAAGAGGTGGCCGGGGA GACTTCTCAGGGGATTTTTGCAGACGGCCTGGGCTTGCTGTTCTAATTGTTGTTACTTTT AGCTGCTCTTGTAAGGCCTTCATTTGCTCTTGCAAATTCCTTAATTCCTCTTGCAACTCTTCAT TCGTTTTCTCTCGCCTGGGGGCAGGAGCAGGGGGGCCCTATTTTCAGTTGACTGTGATGC GGGAACTTCTTCATCTGTTAAGTCCTCCATATCTCCAAAGAGAGTGGCCAGATTTTCCTT TTCGTCTCTTGTCTCCTGTTTCTCCATCATCAGCCTCTTCTGTATAAGATTCACCGTCGCC GTCGGCATCAAAGAGCTCATCAAATGCGTCGGGCTCGCCATTTTCCCGCGTCAAGAAGTTAT TTTCTTCTGAATTACAATCCAAGGCTGACTCATTTTCTTCCAGCAGTGCGGTCAGCAGAGACA GATTGTCTTCCTCCTCATCCATGCTGTCAAGAGGACAGTTGTGACAGGAAACTTCGAAGGAG GCTCAGATGCCCAGATGAGCAATGTAGAATCTTGGCCGATGCCGGGACGCCTTCTTCGTTC ACAGCTGAACCCGCCAAAATCGGACNN >180

GCACATCCAGTTCTTTGATGTCTGGCTGCCTTCTGCGGGCCAACTGTCTTGTGGAATTCGTT GCTCCCAGAGATAGCTTGAACTGCAGATCCCGCACAGCATTGCACTGAGCTGTCGTTGTATC TGAGCCTGGACATGGCGGCCGAGGTACTCACAGTCACGCAAATTCACAGTCTGCGTGCACG GCTCTCCATTCTTCTTGGCTTTACAGGTTCCCAGGTCAAGAGCTTCACCCATAATTAAGA CCTTCTGAGGATGATCGATAGATAAACACACCTCCTCTGAACCATCCTTGGGCTTCATGGGG TTGGCATTGAGGATCCCTACGACAGTCCCCTGCTCCGTCTTCCAGAGCGCTTTGTGAACTTC TCCAAATAAGAACAAGGACACACTTGTGTCAGGTCACGAAGATCATTCAGTTTCCATATGCT GAAGGTTTTTCCACTATTCACACTCTGTGGCGTAACCTTCTTCAATATAACCCCAAATGTCAC CCAATCTATTTCTTCCAGCTTCTCTCTGGCCATCTTTTCCTTGATCTGAGACAGTCTGATCAG TTTTCGGCCGGTCATGTGTCTTCGTTCATATTCTCTGGAGGATACTCGAGCCCGCCTCGAGC CGCAGACCAGGAGAAGGCTTCCACACAGATGGCGATTGAGTCGTTTCCTCACAGAACTTTC ACTCGGGGTCCACCACATATTTGACCTCTAGTTATCCCACTAGGTTTGTTCCGAGAAATCGT CTGTAGGGGTTGGGAGGTGCACTTGTCATCCTTGAAGATGAGCTTTTGGGATCTGGAGGT GAAGCCTTTGGTGTTCGAGCCACCCTCTTGGTTCTTGGTAGCGCAGGGACATCAAGCTCCG CAGAAAAGCATGTTGACTCCTGAATTCTCTGAACTCTCCTCCTTAAGAGGTGGCCGGGGA AGCTGCTCTTGTAAGGCCTTCATTTGCTCTTGCAAATTCCTTAATTCCTCTTGCAACTCTTCAT TCGTTTTCTCTCGCCTGGGGGCAGGAGCAGGGAGCCCTATTTTCAGTTGACTGTGATGC GGGAACTTCTTCATCTGTTAAGTCCTCCATATCTCCAAAGAGAGTGGCCAGATTTTCCTT TTCGTCTCTTGTCTCCCGTTTCTCCATCATCAGCCTCTTCTGTATAAGATTCACCGTCGCC GTCGGCATCAAAGAGCTCATCAAATGCGTCGGGCTCGCCATTTTCCCGCGTCAAGAAGTTAT TTTCTTCTGAATTACAATCCAAGGCTGACTCATTTTCTTCCAGCAGTGCGGTCAGCAGAGACA GATTGTCTTCCTCCTCATCCATGCTGTCAAGAGGACAGTTGTGACAGGAAACTTCGAAGGAG GCTCAGATGCCCAGATGAGCAATGTAGAATCTTGGCCGATGCCGGGACGCCTTCTTCGTTC **ACAGCTGAACCCGCCAAAATCGGACNN** >181

NNATGTGGTTACGACCCACTGTATTGAGGTGACGCGATCCATAGGCTGTGGTGTTT **GTTTTCGCTGATCCACACACACGTTGGGGCACTGTCTATTCATGTGTTCAAGCTGAAGGCTC** GTTCTCGGTTGTCATTTTACAGTGTTTTTCTACGGGGTTACATTACAGGAATGTTGTAGCGAC GTTTAGCCCGTGGAGTATCAACGTCTTGAGACTCCGTGTGAGACTCCCTGGTTTGTTCCACA ACAGTGTGTTTTTAGATTCCGTACCTTTGATTAAGGAACACATCATGCCGTGAAGCCAATTTA TATTCTGCAATTCCGTAGTGCATGTAATGTATTCTGCCGTCTCGTAGTGTGAAGCCATGCTTG GCACATCCAGTTCTTTGATGTCTGGCTGCCTTCTGCGGGCCAACTGTCTTGTGGAATTCGTT GCTCCCAGAGATAGCTTGAACTGCAGATCCCGCACAGCATTGCACTGAGCTGTCGTTGTATC TGAGCCTGGACATGGCGGCCGAGGTACTCACAGTCACGCAAATTCACAGTCTGCGTGCACG GCTCTCCATTCTTCTTCTTGGCTTTACAGGTTCCCAGGTCAAGAGCTTCACCCATAATTAAGA CCTTCTGAGGATGATCGATAGATAAACACACCTCCTCTGAACCATCCTTGGGCTTCATGGGG TTGGCATTGAGGATCCCTACGACAGTCCCCTGCTCCGTCTTCCAGAGCGCTTTGTGAACTTC TCCAAATAAGAACAAGGACACACTTGTGTCAGGTCACGAAGATCATTCAGTTTCCATATGCT GAAGGTTTTTCCACTATTCACACTCTGTGGCGTAACCTTCTTCAATATAACCCCAAATGTCAC CCAATCTATTTCTTCCAGCTTCTCTCTGGCCATCTTTTCCTTGATCTGAGACAGTCTGATCAG TTTTCGGCCGGTCATGTGTCTTCGTTCATATTCTCTGGAGGATACTCGAGCCCGCCTCGAGC CGCAGACCAGGAGAAGGCTTCCACACAGATGGCGATTGAGTCGTTTCCTCACAGAACTTTC **ACTCGGGGTCCACCACATATTTGACCTCTAGTTATCCCACTAGGTTTGTTCCGAGAAATCGT** CTGTAGGGGTTGGGAGGGTGCACTTGTCATCCTTGAAGATGAGCTTTTGGGATCTGGAGGT GAAGCCTTTGGTGTTCGAGCCACCCTCTTGGTTCTTGGTAGCGCAGGGACATCAAGCTCCG CAGAAAAGCATGTTGACTCCTGAATTCTCTGAACTCTCCTCTCTTAAGAGGTGGCCGGGGA GACTTCTCAGGGGATTTTTGCAGACGGGCTGGGCTTGCTGTTTAATTGTTGTTACTTTT AGCTGCTCTTGTAAGGCCTTCATTTGCTCTTGCAAATTCCTTAATTCCTCTTGCAACTCTTCAT TCGTTTTCTCTCGCCTGGGGGCAGGAGCAGGAGGACCCTATTTTCAGTTGACTGTGATGC GGGAACTTCTTCTTCATCTGTTAAGTCCTCCATATCTCCAAAGAGAGTGGCCAGATTTTCCTT TTCGTCTCTTGTCTCCTGTTTCTCCATCATCAGCCTCTTCTGTATAAGATTCACCGTCGCC GTCGGCATCAAAGAGCTCATCAAATGCGTCGGGCTCGCCATTTTCCCGCGTCAAGAAGTTAT TTTCTTCTGAATTACAATCCAAGGCTGACTCATTTTCTTCCAGCAGTGCGGTCAGCAGAGACA GATTGTCTTCCTCCTCATCCATGCTGTCAAGAGGACAGTTGTGACAGGAAACTTCGAAGGAG

Table 4

GCTCAGATGCCCAGATGAGCAATGTAGAATCTTGGCCGATGCCGGGACGCCTTCTTCGTTC ACAGCTGAACCCGCCAAAATCGGACNN >182

NACAGCTGGCGAGTGTACCCGTTTCTGCGAGAGAAGCTAAAGAATGCCCTTGCGTG AGGAAATTAAATTTATGTTCAAGCTAAATGTCGTTTATGGCACTGGGAACACAAGCATTGTCG TAACAAGTTCTGGTGGAAATCCGTACATGGATACGTTCTCTTCTGGGGGGCGGTCTCCAGTCC TTTCTCATGAGGGAGCACACTCCTCTGCCTCATTGCAGTGGCCTCAGGGATATGGAATTAAG GGCTGGCGATCTGGAGTAAAGGATCCTCACATCCACGTGAACCAGGAAACTCTGTGCCCAA ATCGACGAAAAAAAACACTGGGAGAGCCGAACTAAAAGTCTTTTAGCACGGGTACCAGCC CTAGAATTTCCAGTAGACCAGCAGACAGCCGGGAAACCAGATCCTCATCAAAAGACAGAAA GAAAAAATTCGAAGCCAGCCTGAGAAGGGCCCTATTTCAATGCTGTTAACCACTGAGACTG CATCCTCAACAGTGAGACAGGATGGACCAACATACTCAAGCTCAAGGAAACATCTAACACCG GTCGGAAACTCATGGGATCACCGGTACCTAGGATTAGGCCATATAAAGTTTACCGTTACAGA .CTGGGCATAGGGACCTAGCTGACAACACGCAGTACCAAGGGCCTTAAAAGCAGCCCAGACC CCCGTCTCGGCACAGGTGCCACATCACGAGACGCTATGGCTAAACCACAGTATAGACGGGC GCCCAAATGAGAGGACACCGGCCGCCTTGGTTGTCACGGCACAAGAGCCATCGCCATCAGA GGTAGGGCATAGAACATGACTACTACGCGGAGGGCAGCACAACGCAACACAATATATACAG AAAGAATGAAACGTACAGAAACTTCAGCAAGTGATCTGCTTTCTTGTGTTGTCTTCTCCTGAC **CNNN** >183

tatAGGGAGTCGACCCACGCGTCCGGcCAGAGTAAAGCAAAGAGAAAGGAAGCAGGC CCGTTGGAAGTGGTTGTGACAACCCCAGCAATGTGGAGAAGCCTGGGGCTTGCCCTGGCTC TCTGTCTCCCCATCGGGAGGAACAGAGCCAGGACCAAAGCTCCTTATGTAAGCAACC CCCAGCCTGGAGCATAAGAGATCAAGATCCAATGCTAAACTCCAATGGTTCAGTGACTGTGG TTGCTCTTCTAAGCCAGCTGATACCTGTGCATACTGCAGGCATCTAAATTAGAAGACCTG CGAGTAAAACTGAAGAAAGAAGGATATTCTAATATTTCTTATATTGTTGTTAATCATCAAGGAA TCTCTCTCGATTAAAATACACACATCTTAAGAATAAGGTTTCAGAGCATATTCCTGTTTATCA ACAAGAAGAAACCAAACAGATGTCTGGACTCTTTTAAATGGAAGCAAAGATGACTTCCTCAT ATATGATAGATGTGGCCGTCTTGTATATCATCTTGGTTTGCCTTTTTCCTTACTTTCCCA TATGTAGAAGAAGCCATTAAGATTGCTTACTGTGAAAAGAAATGTGGAAACTGCTCTCACG ACTCTCAAAGATGAAGACTTTTGTAAACGTGTATCTTTGGCTACTGTGGATAAAACAGTTGAA ACTCCATCGCCTCATTACCATCATGAGCATCATCACAATCATGGACATCAGCACCTTGGCAG CAGTGAGCTTTCAGAGAATCAGCAACCAGGAGCACCAAATGCTCCTACTCATCCTGCTCCTC CAGGCCTTCATCACCACCATAAGCACAAGGGTCAGCATAGGCAGGGTCACCCAGAGAACCG AGATATGCCAGCAAGTGAAGATTTACAAGATTTACAAAAGAAGCTCTGTCGAAAGAGATGTAT AAATCAATTACTCTGTAAATTGCCCACAGATTCAGAGTTGGCTCCTAGGAGCTGATGCTGCC ATTGTCGACATCTGATATTTGAAAAAACAGGGTCTGCAATCACCTGACAGTGTAAAGAAAACC TCCCATCTTTATGTAGCTGACAGGGACTTCGGGCAGAGGAGAACATAACTGAATCTTGTCAG TGACGTTTGCCTCCAGCTGCCTGACAAATAAGTCAGCAGCTTATACCCACAGAAGCCAGTGC CAGTTGACGCTGAAAGAATCAGGCAAAAAAGTGAGAATGACCTTCAAACTAAATATTTAAAAT AGGACATACTCCCCAATTTAGTCTAGACACAATTTCATTTCCAGCATTTTTATAAACTACCAAA TTAGTGAACCAAAAATAGAATTAGATTTGTGCAAACATGGAGAAATCTACTGAATTGGCTTC CAGATTTTAAATTTTATGTCATAGAAATATTGACTCAAACCATATTTTTTATGATGGAGCAACT TAATGAGAATAGAAACGTAAACTATGACCTAGGGGTTTCTGTTGGATAATTAGCAGTTTAGAA **ACTITIGEOTETETECATOTICTACTITITAACTAATAAAATAAGTGGATTITIGEATTITAAGATCCA** GAAATACTTAACACGTGAATATTTTGCTAAAAAAGCATATATAACTATTTTAAATATCCATTTAT CTTTTGTATATCTAAGACTCATCCTGATTTTTACTATCACACATGAATAAAGCCTTTGTATCTTT CTTTCTTATCTTTCTTTCTCTAATGTTGTATCATACTCTTCTAAAACTTGAGTGGCTGTCTTAAA TGATGGTTTAATAGGTAAACCAAACCCTATAAACCTGACCTCCTTTATGGTTAATACTATTTAA TAAAGCTGACTTCGTTTGTTATGTAGGCTGTATGCATATTTGAAAACAGAAGTGAAACTTTC

NACAGCTGGCGAGTGTACCCGTTTCTGCGAGAGAAGCTAAAGAATGCCCTTGCGTG AGGAAATTAAATTTATGTTCAAGCTAAATGTCGTTTATGGCACTGGGAACACAAGCATTGTCG TAACAAGTTCTGGTGGAAATCCGTACATGGATACGTTCTCTTCTGGGGGGCGGTCTCCAGTCC TTTCTCATGAGGGAGCACACTCCTCTGCCTCATTGCAGTGGCCTCAGGGATATGGAATTAAG GGCTGGCGATCTGGAGTAAAGGATCCTCACATCCACGTGAACCAGGAAACTCTGTGCCCAA ATCGACGAAAAAAAACACTGGGAGAGCCGAACTAAAAGTCTTTTAGCACGGGTACCAGCC CTAGAATTTCCAGTAGACCAGCAGACAGCCGGGAAACCAGATCCTCATCAAAAGACAGAAA GAAAAAATTCGAAGCCAGCCTGAGAAGGGCCCTATTTCAATGCTGTTAACCACTGAGACTG CATCCTCAACAGTGAGACAGGATGGACCAACATACTCAAGCTCAAGGAAACATCTAACACCG GTCGGAAACTCATGGGATCACCGGTACCTAGGATTAGGCCATATAAAGTTTACCGTTACAGA CTGGGCATAGGGACCTAGCTGACAACACGCAGTACCAAGGGCCTTAAAAGCAGCCCAGACC CCCGTCTCGGCACAGGTGCCACATCACGAGACGCTATGGCTAAACCACAGTATAGACGGGC GCCCAAATGAGAGGACACCGGCCGCCTTGGTTGTCACGGCACAAGAGCATCGCCATCAGA **GGTAGGGCATAGAACATGACTACTACGCGGAGGGCAGCACACGCAACACACAATATATACAG AAAGAATGAAACGTACAGAAACTTCAGCAAGTGATCTGCTTTCTTGTGTTGTCTCCTGAC CNNN**

CCTTCTGAGGATGATCGATAGATAAACACACCTCCTCTGAACCATCCTTGGGCTTCATGGGG TTGGCATTGAGGATCCCTACGACAGTCCCCTGCTCCGTCTTCCAGAGCGCTTTGTGAACTTC TCCAAATAAGAACAAGGACACACTTGTGTCAGGTCACGAAGATCATTCAGTTTCCATATGCT GAAGGTTTTTCCACTATTCACACTCTGTGGCGTAACCTTCTTCAATATAACCCCAAATGTCAC CCAATCTATTTCTTCCAGCTTCTCTCTGGCCATCTTTTCCTTGATCTGAGACAGTCTGATCAG TTTTCGGCCGGTCATGTGTCTTCGTTCATATTCTCTGGAGGATACTCGAGCCCGCCTCGAGC CGCAGACCAGGAGAAGGCTTCCACACAGATGGCGATTGAGTCGTTTCCTCACAGAACTTTC ACTCGGGGTCCACCACATATTTGACCTCTAGTTATCCCACTAGGTTTGTTCCGAGAAATCGT CTGTAGGGGTTGGGAGGGTGCACTTGTCATCCTTGAAGATGAGCTTTTGGGATCTGGAGGT GAAGCCTTTGGTGTTCGAGCCACCCTCTTGGTTCTTGGTAGCGCAGGGACATCAAGCTCCG CAGAAAAGCATGTTGACTCCTGAATTCTCTGAACTCTCCTCTCCTTAAGAGGTGGCCGGGGA AGCTGCTCTTGTAAGGCCTTCATTTGCTCTTGCAAATTCCTTAATTCCTCTTGCAACTCTTCAT TCGTTTTCTCTCGCCTGGGGGCAGGAGCAGGGGGGCCCTATTTTCAGTTGACTGTGATGC GGGAACTTCTTCATCTGTTAAGTCCTCCATATCTCCAAAGAGAGTGGCCAGATTTTCCTT TTCGTCTCTTGTCTCCTGTTTCTCCATCATCAGCCTCTTCTGTATAAGATTCACCGTCGCC GTCGGCATCAAAGAGCTCATCAAATGCGTCGGGCTCGCCATTTTCCCGCGTCAAGAAGTTAT TTTCTTCTGAATTACAATCCAAGGCTGACTCATTTTCTTCCAGGCAGTGCGGTCAGCAGAGACA GATTGTCTTCCTCCTCATCCATGCTGTCAAGAGGACAGTTGTGACAGGAAACTTCGAAGGAG GCTCAGATGCCCAGATGAGCAATGTAGAATCTTGGCCGATGCCGGGACGCCTTCTTCGTTC ACAGCTGAACCCGCCAAAATCGGACNN >187

NNNNNCTAAACAGCCTGACACTGAGGGGAGGCAGTGAGACTGTAAGCAGTCTGG GTTGGGCAGAAGGCAGAAAACCAGCAGAGTCACAGAGGAGATGGCCAACTGCCAAATAGC CATCTTGTACCAGAGATTCCAGAGAGTGGTCTTTGGAATTTCCCAACTCCTTTGCTTCAGTGC CCTGATCTCTGAACTAACAAACCAGAAAGAAGTGGCAGCATGGACTTATCATTACAGCACAA AAGCATACTCATGGAATATTTCCCGTAAATACTGCCAGAATCGCTACACAGACTTAGTGGCC ATCCAGAATAAAAATGAAATTGATTACCTCAATAAGGTCCTACCCTACTACAGCTCCTACTAC CCAACGAGGCTGAGAACTGGGCTGATAATGAACCTAACAACAAAAGGAACAACGAGGACTG CGTGGAGATATACATCAAGAGTCCGTCAGCCCCTGGCAAGTGGAATGATGAGCACTGCTTG AAGAAAAAGCACGCATTGTGTTACACAGCCTCCTGCCAGGACATGTCCTGCAGCAAACAAG GAGAGTGCCTCGAGACCATCGGGAACTACACCTGCTCCTGTTACCCTGGATTCTATGGGCC AGAATGTGAATACGTGAGAGAGTGTGGAGAACTTGAGCTCCCTCAACACGTGCTCATGAACT GCAGCCACCCTCTGGGAAACTTCTCTTTTAACTCGCAGTGCAGCTTCCACTGCACTGACGG GTACCAAGTAAATGGGCCCAGCAAGCTGGAATGCTTGGCTTCTGGAATCTGGACAAATAAG CCTCCACAGTGTTTAGCTGCCCAGTGCCCACCCCTGAAGATTCCTGAACGAGGAAACATGAT CTGCCTTCATTCTGCAAAAGCATTCCAGCATCAGTCTAGCTGCAGCTTCAGTTGTGAAGAGG GATTTGCATTAGTTGGACCGGAAGTGGTGCAATGCACAGCCTCGGGGGTATGGACAGCCCC AGCCCCAGTGTAAAGCTGTGCAGTGTCAGCACCTGGAAGCCCCCAGTGAAGGAACCATG GACTGTGTTCATCCGCTCACTGCTTTTGCCTATGGCTCCAGCTGCAAATTTGAGTGCCAGCC CGGCTACAGAGTGAGGGGCTTGGACATGCTCCGCTGCATTGACTCTGGACACTGGTCTGCA CCCTTGCCAACCTGTGAGGCTATTTCGTGTGAGCCGCTGGAGAGTCCTGTCCACGGAAGCA TGGATTGCTCCCATCCTTGAGAGCGTTTCAGTATGACACCAACTGTAGCTTCCGCTGTGCT GAAGGTTTCATGCTGAGAGGAGCCGATATAGTTCGGTGTGATAACTTGGGACAGTGGACAG CACCAGCCCAGTCTGTCAAGCTTTGCAGTGCCAGGATCTCCCAGTTCCAAATGAGGCCCG AATGAAGGCTTGCTCCTGGTGGGAGCAAGTGTGCTACAGTGCTTGGCTACTGGAAACTGGA ATTCTGTTCCTCCAGAATGCCAAGCCATTCCCTGCACACCTTTGCTAAGCCCTCAGAATGGA ACAATGACCTGTGTTCAACCTCTTGGAAGTTCCAGTTATAAATCCACATGTCAATTCATCTGT GACGAGGGATATTCTTTGTCTGGACCAGAAAGATTGGATTGTACTCGATCGGGACGCTGGA CAGACTCCCCACCAATGTGTGAAGCCATCAAGTGCCCAGAACTCTTTGCCCCAGAGCAGGG CAGCCTGGATTGTTCTGACACTCGTGGAGAATTCAATGTTGGCTCCACCTGCCATTTCTCTT GTAACAACGGCTTTAAGCTGGAGGGGCCCAATAATGTGGAATGCACAACTTCTGGAAGATG GTCAGCTACTCCACCAACCTGCAAAGGCATAGCATCACTTCCTACTCCAGGGGTGCAATGTC CAGCCCTCACCACTCCTGGGCAGGGAACCATGTACTGTAGGCATCATCCGGGAACCTTTGG

Table 4

TTTTAATACCACTTGTTACTTTGGCTGCAACGCTGGATTCACACTCATAGGAGACAGCACTCT CAGCTGCAGACCTTCAGGACAATGGACAGCAGTAACTCCAGCATGCAGAGCTGTGAAATGC TCAGAACTACATGTTAATAAGCCAATAGCGATGAACTGCTCCAACCTCTGGGGAAACTTCAG TTATGGATCAATCTGCTCTTTCCATTGTCTAGAGGGCCAGTTACTTAATGGCTCTGCACAAAC AGCATGCCAAGAGAATGGCCACTGGTCAACTACCGTGCCAACCTGCCAAGCAGGACCATTG ACTATCCAGGAAGCCCTGACTTACTTTGGTGGAGCGGTGGCTTCTACAATAGGTCTGATAAT GGGTGGGACGCTCCTGGCTTTGCTAAGAAAGCGTTTCAGACAAAAAGATGATGGGAAATGC CCCTTGAATCCTCACAGCCACCTAGGAACATATGGAGTTTTTACAAACGCTGCATTTGACCC GAGTCCTTAAGGTTTCCATAAACACCCATGAATCAAAGACATGGAATTACCTTAGATTAGCTC TGGACCAGCCTGTTGGACCCGCTCTGGACCAACCCTGTTTCCTGAGTTTGGGATTGTGGTA CAATCTCAAATTCTCAACCTACCACCCCTTCCTGTCCCACCTCTTCTCTTCCTGTAACACAAG CCACAGAAGCCAGGAGCAAATGTTTCTGCAGTAGTCTCTGTGCTTTGACTCACCTGTTACTT GAAATACCAGTGAACCAAAGAGACTGGAGCATCTGACTCACAAGAAGACCAGACTGTGGAG AAATAAAAATACCTCTTTATTTTTTGATTGAAGGAAGGTTTTCTCCACTTTGTTGGAAAGCAGG TGGCATCTCTAATTGGAAGAAATTCCTGTAGCATCTTCTGGAGTCTCCAGTGGTTGCTGTTG ATGAGGCCTCTTGGACCTCTGCTCTGAGGCTTCCAGAGAGTCCTCTGGATGGCACCAGAGG CTGCAGAAGGCCAAGAATCAAGCTAGAAGGCCACATGTCACCGTGGACCTTCCTGCCACCA GTCACTGTCCCTCAAATGACCCAAAGACCAATATTCAAATGCGTAATTAAAAGAATTATCCCC **AAAAAAAAAAAAAAAAAGATCTTTAATTAAGCGGCCGCAAGCTTN** >188

>190 acccacgcGTCCGGAcgggaGCTgtatgAAAGcggcggAGTTATAGACCGCTAACACCTGTCA CTGGCCACTGGTTTCCCGGAGTTAGCGGCAACGACCTTGCAGCCTGGACACTAGCCAGGC GCTCCCTCTTCTCACAGCGGCCCACGTCTCCTTGCTTGGGAGCCCATCGTCCTGGCTCCGG TGGCCTCGCTGGGTCTCGGGGAAGCAGAGGACTGTTCATTCCTGTGGCGAAAAGCCGGAG TCGGCCCTAGACACCCACGACTCGCAGGGTCCATGGTTCCGGAGGCCGTGAGACCTGCCG GGGCTGACAGGTGCCAGGGCCCATGCTGCGGGAGCCTGTGTGCTCAGCCTTCTTGCGGAC GGTAAAGAAGCTAAGTGGAAGAGTGTTTCCTCCTCTGGCCGTAAAGCAGGTACTCTCTGCA GCACCAGCTGTCCCCGCCCTACTCCGGACCGCCCCAAAGACTCCATGGGATGGACCTGAG TCAGCCGAATCCCAGCCCCTTCCCTTGGGCCTGCTGTGGTGCTGGACATCAGTGACAGACG GAAGCAGGAGACCATCAAGGCCIACGGGAGGCCCGGGGCGCTTGCGAAGATGAAGTTTGGC TGCCTCTCCTTCCGGCAggcCTTATGCTGGCTTTGTCTTAAATGGAATCAAGACTGTGGAggac CICGCTGGCGTCCCCTGCTGAGCAGCCAGCGGAACTGTACCATCGCCGTCCACATTGCTCA CAGGGACTGGGAAGGCGATGCCTGGCGGGAGCTGCTGGTGGAGACTCGGGATGACTC CTGCTCAGATTCAGGCCTTGCTCAGGAAAGGGGAAAAGTTTGGTCGAGGAGTGATAGCGGG ACTCGTTGACATTGGGGAAACTTTGCAATGCCCCGAAGACTTAACTCCCGATGAGGTTGTGG AACTAGAAAATCAAGCTGTACCCTGATGCTACAGACGAGGACATCACCTCACACATGGAAAG

Table 4

GTACTCCCTGGAAAGTCCAGCTGAGAAAGCGATCCTGCCCTCTGCTCCCCAGGG
TTACCCTCGTAAGTCTTCTGCTTAGTGTTCAGAATTGGGGGATGCTGGACTGGGCAAGG
ACTTGTAGGCAACACCCCATAGCCTGCTCATGCCTGTTGGGTTGCCTATGGATCATTCCCTG
CTGGGCTCACTCACCGGCTTCGTATAAGGTCCTTTTTGAGGTTATTATTTCCTTGTCCATAT
ACTTGATGCTCTTCATTGGCTTGTCTGGGACCTGCCTTAGGTTCTCCGAGGCATAAAAGGGC
CGGACAGCCCCCGAGTTGGGGGGAACTCTGAAGCTTCTTGGTGGCTGGAACCTTGGTCATCT
TAAAAATCCTTCAGGTTTTAGCCTGTGCCCCCAAGACAAGGATTTTTCCAGAATCTTCTACTT
CAGTAGTTACTGGTATGAGAAGTTTCGGCAACTTCTCCCTGATCCCCAAGTCCCAATTACAC
GAACTCCAAAGCGGTTTCCTTCCCCGCGN
>192

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ACGCGGGGGATCCGAGTGAGGCGACGGGGTAGGGGTTGGCGCTCAGGCGCGA CCATGGTGATTGTGATTCATCATCCCTTAATTAAATATCAAATTATATTTGTGTGAAAATGTGA CAAACACACTTATCTGTCTCTTCTACAATTGTGGTTTATTGAATGTGATTTTTCTGCACTAATA TAAATTAGACTAAGTGTTTTCAAATAAATCTAAATCTTCAGCATGATGTGTTGTGTATAATTGG AGTAGATATTAATTAAGTCACCTGTATAATGTTTTGTAATTTTGCAAAACATATCTTGAGTTGT TTAAACAGTCAAAATGTTTGATATTTTATACCAGCTTATGAGCTCAAAGTACCTCGGCCGCC >197

>198

NACTTGGTGTTTGTCCCCCCGGCGAACACATTTTGGGGTGCGCACACTGGCCCTG GTGGCGCGCTTCTTTTTAGGGGGCCTGTGGCCCACAGACAATGTTCTAACCGGGTAGTGGT GCTCTCTTACCCCGGTGGTCAGATAACCAGGGGCCCAGGGTCCCTTCTTTTGGCCCCTGTA GCACACCCGGTACCCTAAAGCTTGACCCGTTAAAAGCTGTACTTGTAACTGGGTACCTCGTG AACTGTCAAGGAGGCCAGAGCAGGAAAGGGAAAGGAATAACCCCCACCCCCAACACAA GAGAGGCACAAATTAGAGGGCTGGGCACAGGCTGTAGCCCTGGGTGAGGGGGTAAGCAGC TTGACAGTTGCTCTGTGGTCTCTGGGATATAATTCTGCCCAAGGCTAGAACCACAGAGAAAGT GTTTGCACTCTTAAGTCCAGGAAGGGGACCCTAGGAACCACAAGGAGAAAGT TTAGCACACTAAACACATGGCCAGGACCCTAGGGACACAAGGCAGCTGGAGAGTGGGATCT CTTGTTAAATGGCATGGTAGGCAGATTAGAGTCCTGGCTATAATCCCTAGGGCCCCAATCCT

AGTAGTTACGTGCTAACCAACACATTACCCTGAGGCTTCTGGGAGAACAAGAGCCCTGAGG AAGAAGCAGTAAGACCAGGCATGAGAAAACCCAGAAAGCCAGCTCAGTTCCCAAGAAGGCT GGCACATGGGGCCTGAGAATTCTTAAATGGCCATTGTCACTGGTACTTGCTCAGCCTTTCCA GGCCCCTCTGATGAGCTCTCTAATCAGCAGGACCAAGGTGTGAAGTGGGAATGAACATGGA TCCATCCCATTGGATGGAGAAGAAGGTGGACAGCCTGTTCGTCTCATGTCAGCCTAGG GCTGGGAACAGTTTGTGAGGACTTATCTGTTGTACCTGCCAAAAGTTAATTAGTAACTCACC GTCGAGAGTGAATTAACAGGACAAACGTAATCCAACATGCCAGTGTGGGTAGGACACAGTT CCCTAATCAGCCCTTGGCCCCCAGATGCAGGCTCTCCCCTCCCCTCTGAGACCTCTCTGGG AATAGCAGACAAGAGAATGTCAGGGCAGAAACCTGCTGGACTAGGCTCTCAGCAGCCCAGC TCCTCCCTGGGGGAATCCCCCAGAATTCCTCACTGTGTGACACAGTTTTCTCCCATGTCCTG GGCATATCTGTCTGACATGGTGGTCCTTAAGTCCTCAATGTCACGACGCAGCTGTTGAACCT CTTCTAGTTTCCTCTTGATCACATCTGGCTTCTGCAAATCTAGCTGAGTCTCTGGGTGCTGTG AGTGAATGCCCAGGAGCAGGAGAGATTGGGGTCATGGCCCTGGGCCCTCTGGGTCACAA TGCTACAGACAGCCTGCAGATCTTGAAGGCAACTGGCCAACTCCTGGTGCAGCTCAAGTGC CAGCTGGGCCGTGTCTGGTGAAGGTGGAGACCCTGGTTGGGCCTGGCGCAGGTGTTCCTG GAGTGTCAGATTCTTCTCAATCAAGTCCTGGTTTTGCACTGAAAGCTCCTTTCACGGCTGTG CGCAGCTGCTGCAGGGCTGAATCCCTTCGCTGGGCCTCCTCTCAGGGCCTGGCTTGTTC CTTCTTCTTGAGCCACTTCCTGCTCTAGGCTCTGTACTTGTGAGCGCAACTGATCCATCTTCT GCTGCTGCTTCTCCACAATCTTTTGGAGCGAATCGTATCGCTTCTGCCAGGACTCCATTTCC ACTTCTGGACCTTCTCCACTGGTCTCCTCCACAGACTGTTTATCTTGCAGGCTATGTCCAGC GGAGGAGAATTCTGCTTCTCTCTGCCTCAGGCTTTCCAGTTGAATCTCCTTCTCTCTGCAGA TTGCCTGGGTCTCCCAGCAAACTCTCCAGCTCAGTCACTTTCTCCTGCAGCTCTGTGCTC TTCAACTCAGAATCCTTAAGCTATATTTAATTTCCTCAGCAAGGCAATTTTTACTTTCTGCAGA AAGGGTGCTCCTCGCAGATGGAACAAN >199

NACTTGGTGTTTTGTCCCCCCGGCGAACACATTTTGGGGTGCGCACACTGGCCCTG GTGGCGCGCTTCTTTTAGGGGGCCTGTGGCCCACAGACAATGTTCTAACCGGGTAGTGGT GCTCTCTTACCCCGGTGGTCAGATAACCAGGGGCCAGGGTCCCTTCTTTTGGCCCCTGTA GCACACCGGTACCCTAAAGCTTGACCCGTTAAAAGCTGTACTTGTAACTGGGTACCTCGTG AACTGTCAAGGAGGCCAGAGCAGGAAAGGGAAAGGAATAACCCCCACCACCCCCAACACAA GAGAGGCACAAATTAGAGGGCTGGGCACAGGCTGTAGCCCTGGGTGAGGGGGTAAGCAGC TTGACAGTTGCTCTGTGGTCTCTGGGATATAATTCTGCCCAAGGCTAGAACCACAGAGAAGA GTTTGCACTCTTAAGTCCAGGAAGGGGACTACCTGGAAGGCCTGAGAACAAAGGAGAAAGT TTAGCACACTAAACACATGGCCAGGACCCTAGGGACACAAGGCAGCTGGAGAGTGGGATCT CTTGTTAAATGGCATGGTAGGCAGATTAGAGTCCTGGCTATAATCCCTAGGGCCCCAATCCT **AGTAGTTACGTGCTAACCAACACATTACCCTGAGGCTTCTGGGAGAACAAGAGCCCTGAGG** AAGAAGCAGTAAGACCAGGCATGAGAAAACCCAGAAAGCCAGCTCAGTTCCCAAGAAGGCT GGCACATGGGGCCTGAGAATTCTTAAATGGCCATTGTCACTGGTACTTGCTCAGCCTTTCCA GGCCCCTCTGATGAGCTCTCTAATCAGCAGGACCAAGGTGTGAAGTGGGAATGAACATGGA TCCATCCCATTGGATGGAGAAGAAGGTGGACAGCCTGTTCGTCTCTCATGTCAGCCTAGG GCTGGGAACAGTTTGTGAGGACTTATCTGTTGTACCTGCCAAAAGTTAATTAGTAACTCACC GTCGAGAGTGAATTAACAGGACAAACGTAATCCAACATGCCAGTGTGGGTAGGACACAGTT CCCTAATCAGCCCTTGGCCCCCAGATGCAGGCTCTCCCCTCCCCTCTGAGACCTCTCTGGG **AATAGCAGACAAGAGAATGTCAGGGCAGAAACCTGCTGGACTAGGCTCTCAGCAGCCCAGC** TCCTCCCTGGGGGAATCCCCCAGAATTCCTCACTGTGTGACACAGTTTTCTCCCATGTCCTG GGCATATCTGTCTGACATGGTGGTCCTTAAGTCCTCAATGTCACGACGCAGCTGTTGAACCT CTTCTAGTTTCCTCTTGATCACATCTGGCTTCTGCAAATCTAGCTGAGTCTCTGGGTGCTGTG **AGTGAATGCCCAGGAGCAGGGAGAGATTGGGGTCATGGCCCTGGGCCCTCTGGGTCACAA** TGCTACAGACAGCCTGCAGATCTTGAAGGCAACTGGCCAACTCCTGGTGCAGCTCAAGTGC CAGCTGGGCCGTGTCTGGTGAAGGTGGAGACCCTGGTTGGGCCTGGCGCAGGTGTTCCTG GAGTGTCAGATTCTTCTCAATCAAGTCCTGGTTTTGCACTGAAAGCTCCTTTCACGGCTGTG CGCAGCTGCTGCAGGCTGAATCCCTTCGCTGGGCCTCCTCTCTCAGGGCCTGGCTTGTTC CTTCTTCTTGAGCCACTTCCTGCTCTAGGCTCTGTACTTGTGAGCGCAACTGATCCATCTTCT GCTGCTGCTTCTCCACAATCTTTTGGAGCGAATCGTATCGCTTCTGCCAGGACTCCATTTCC ACTTCTGGACCTTCTCCACTGGTCTCCTCCACAGACTGTTTATCTTGCAGGCTATGTCCAGC GGAGGAGAATTCTGCTTCTCTCCCCCAGGCTTTCCAGTTGAATCTCCTTCTCTCTGCAGA

Table 4

TTGCCTGGGTCTCCAGCAAACTCTCCAGCTCAGTCACTTTCTCCTGCAGCTCTGTGCTC
TTCAACTCAGAATCCTTAAGCTATATTTAATTTCCTCAGCAAGGCAATTTTTACTTTCTGCAGA
AAGGGTGCTCCTCGCAGATGGAACAAN
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NNATGTGGTTACGACCCACTGTATTGAGGTGACGCGATCCATAGGCTGTGGTGTTT GTTTTCGCTGATCCACACACACGTTGGGGCACTGTCTATTCATGTGTTCAAGCTGAAGGCTC GTTCTCGGTTGTCATTTTACAGTGTTTTTCTACGGGGTTACATTACAGGAATGTTGTAGCGAC GTTTAGCCCGTGGAGTATCAACGTCTTGAGACTCCGTGTGAGACTCCCTGGTTTGTTCCACA ACAGTGTGTTTTTAGATTCCGTACCTTTGATTAAGGAACACATCATGCCGTGAAGCCAATTTA TATTCTGCAATTCCGTAGTGCATGTAATGTATTCTGCCGTCTCGTAGTGTGAAGCCATGCTTG GCACATCCAGTTCTTTGATGTCTGGCTGCCTTCTGCGGGCCAACTGTCTTGTGGAATTCGTT GCTCCCAGAGATAGCTTGAACTGCAGATCCCGCACAGCATTGCACTGAGCTGTCGTTGTATC TGAGCCTGGACATGGCGGCCGAGGTACTCACAGTCACGCAAATTCACAGTCTGCGTGCACG GCTCTCCATTCTTCTTGGCTTTACAGGTTCCCAGGTCAAGAGCTTCACCCATAATTAAGA CCTTCTGAGGATGATCGATAGATAAACACACCTCCTCTGAACCATCCTTGGGCTTCATGGGG TTGGCATTGAGGATCCCTACGACAGTCCCCTGCTCCGTCTTCCAGAGCGCTTTGTGAACTTC TCCAAATAAGAACAAGGACACACTTGTGTCAGGTCACGAAGATCATTCAGTTTCCATATGCT GAAGGTTTTTCCACTATTCACACTCTGTGGCGTAACCTTCTTCAATATAACCCCAAATGTCAC CCAATCTATTTCTTCCAGCTTCTCTCTGGCCATCTTTTCCTTGATCTGAGACAGTCTGATCAG TTTTCGGCCGGTCATGTCTTCGTTCATATTCTCTGGAGGATACTCGAGCCCGCCTCGAGC CGCAGACCAGGAGAAGGCTTCCACACAGATGGCGATTGAGTCGTTTCCTCACAGAACTTTC ACTCGGGGTCCACCACATATTTGACCTCTAGTTATCCCACTAGGTTTGTTCCGAGAAATCGT CTGTAGGGGTTGGGAGGTGCACTTGTCATCCTTGAAGATGAGCTTTTGGGATCTGGAGGT GAAGCCTTTGGTGTTCGAGCCACCCTCTTGGTTCTTGGTAGCGCAGGGACATCAAGCTCCG CAGAAAAGCATGTTGACTCCTGAATTCTCTGAACTCTCCTCTCTTAAGAGGTGGCCGGGGA AGCTGCTCTTGTAAGGCCTTCATTTGCTCTTGCAAATTCCTTAATTCCTCTTGCAACTCTTCAT TCGTTTTCTCTCGCCTGGGGGCAGGAGCAGGAGCACCCTATTTTCAGTTGACTGTGATGC GGGAACTTCTTCATCTGTTAAGTCCTCCATATCTCCAAAGAGAGTGGCCAGATTTTCCTT TTCGTCTCTTGTCTCCTGTTTCTCCATCATCAGCCTCTTCTGTATAAGATTCACCGTCGCC GTCGGCATCAAAGAGCTCATCAAATGCGTCGGGCTCGCCATTTTCCCGCGTCAAGAAGTTAT TTTCTTCTGAATTACAATCCAAGGCTGACTCATTTTCTTCCAGCAGTGCGGTCAGCAGAGACA GATTGTCTTCCTCCTCATCCATGCTGTCAAGAGGACAGTTGTGACAGGAAACTTCGAAGGAG GCTCAGATGCCCAGATGAGCAATGTAGAATCTTGGCCGATGCCGGGACGCCTTCTTCGTTC **ACAGCTGAACCCGCCAAAATCGGACNN**

>201 >202

ggAgTCGACCCACGCGTCCGATCATGTGACACGGAAGTAGCTCCGAACAGGAAGAG GACGAÃAÃAAATAACCGTCCGCGACGCCGAGACAAACCGGACCCGCAACCACCATGAACAG CAAAGGTCAATATCCAACACAGCCAACCTACCCTGTGCAGCCTCCTGGGAATCCAGTATACC CTCAGACCTTGCATCTTCCTCAGGCTCCACCCTATACCGATGCTCCACCTGCCTACTCAGAG CTCTATCGTCCGAGCTTTGTGCACCCAGGGGCTGCCACAGTCCCCACCATGTCAGCCGCAT TTCCTGGAGCCTCTCTGTATCTTCCCATGGCCCAGTCTGTGGCTGTTGGGCCTTTAGGTTCC ACAATCCCCATGGCTTATTATCCAGTCGGTCCCATCTATCCACCTGGCTCCACAGTGCTGGT GGAAGGAGGTATGATGCAGGTGCCAGATTTGGAGCTGGGGCTACTGCTGGCAACATTCCT CCTCCACCTCCTGGATGCCTCCCAATGCTGCTCAGCTTGCAGTCATGCAGGGAGCCAACG TCCTCGTAACTCAGCGGAAGGGGAACTTCTTCATGGGTGGTTCAGATGGTGGCTACACCAT CTGGTGAGGAACCAAGGCCACCTTTGTGCCGGGAAAGACATCACATACCTTCAGCACTTCT CACAATGTAACTGCTTTAGTCATATTAACCTGAAGTTGCAGTTTAGACACATGTTGTTGGGGT GTCTTTCTGGTGCCCAAACTTTCAGGCACTTTTCAAATTTAATAAGGAACCATGTAATGGTAG **AAGCCGCCTAAGGATTTTCCTTTAATTTCTCTGGAGTAATACTGTACCATACTGGTCTTTGC** TTTTAGTAATAAAACATCAAATTAGGTTTGGAGGGAACTTTGATCTTCCTAAGAATTAAAGTTG TAGTCTTCCATTTCCTCCCGCCAGTCTCCATTGAATCAATGGTGCAGGACAGAAAGCCAGTC

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Table 4

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NNATGTGGTTACGACCCACTGTATTGAGGTGACGCGATCCATAGGCTGTGGTGTTT **GTTTTCGCTGATCCACACACACGTTGGGGCACTGTCTATTCATGTGTTCAAGGTGAAGGGTC** GTTCTCGGTTGTCATTTTACAGTGTTTTTCTACGGGGTTACATTACAGGAATGTTGTAGCGAC GTTTAGCCCGTGGAGTATCAACGTCTTGAGACTCCGTGTGAGACTCCCTGGTTTGTTCCACA ACAGTGTGTTTTTAGATTCCGTACCTTTGATTAAGGAACACATCATGCCGTGAAGCCAATTTA TATTCTGCAATTCCGTAGTGCATGTAATGTATTCTGCCGTCTCGTAGTGTGAAGCCATGCTTG GCACATCCAGTTCTTTGATGTCTGGCTGCCTTCTGCGGGCCAACTGTCTTGTGGAATTCGTT GCTCCCAGAGATAGCTTGAACTGCAGATCCCGCACAGCATTGCACTGAGCTGTCGTTGTATC TGAGCCTGGACATGGCGGCCGAGGTACTCACAGTCACGCAAATTCACAGTCTGCGTGCACG GCTCTCCATTCTTCTTGGCTTTACAGGTTCCCAGGTCAAGAGCTTCACCCATAATTAAGA CCTTCTGAGGATGATCGATAGATAAACACACCTCCTCTGAACCATCCTTGGGCTTCATGGGG TTGGCATTGAGGATCCCTACGACAGTCCCCTGCTCCGTCTTCCAGAGCGCTTTGTGAACTTC TCCAAATAAGAACAAGGACACACTTGTGTCAGGTCACGAAGATCATTCAGTTTCCATATGCT GAAGGTTTTTCCACTATTCACACTCTGTGGCGTAACCTTCTTCAATATAACCCCAAATGTCAC CCAATCTATTTCTTCCAGCTTCTCTCGGCCATCTTTTCCTTGATCTGAGACAGTCTGATCAG TTTTCGGCCGGTCATGTGTCTTCGTTCATATTCTCTGGAGGATACTCGAGCCCGCCTCGAGC CGCAGACCAGGAGAAGGCTTCCACACAGATGGCGATTGAGTCGTTTCCTCACAGAACTTTC ACTCGGGGTCCACCACATATTTGACCTCTAGTTATCCCACTAGGTTTGTTCCGAGAAATCGT CTGTAGGGGTTGGGAGGTGCACTTGTCATCCTTGAAGATGAGCTTTTGGGATCTGGAGGT GAAGCCTTTGGTGTTCGAGCCACCCTCTTGGTTCTTGGTAGCGCAGGGACATCAAGCTCCG CAGAAAAGCATGTTGACTCCTGAATTCTCTGAACTCTCCTCTCCTTAAGAGGTGGCCGGGGA GACTTCTCAGGGGATTTTTGCAGACGGGCTGGGCTTGCTGTTTAATTGTTGTTACTTTT AGCTGCTCTTGTAAGGCCTTCATTTGCTCTTGCAAATTCCTTAATTCCTCTTGCAACTCTTCAT TCGTTTTCTCTCGCCTGGGGGCAGGAGCAGGAGCCCTATTTTCAGTTGACTGTGATGC GGGAACTTCTTCATCTGTTAAGTCCTCCATATCTCCAAAGAGAGTGGCCAGATTTTCCTT TTCGTCTCTTGTCTCCTGTTTCTCCATCATCAGCCTCTTCTGTATAAGATTCACCGTCGCC GTCGGCATCAAAGAGCTCATCAAATGCGTCGGGCTCGCCATTTTCCCGCGTCAAGAAGTTAT TTTCTTCTGAATTACAATCCAAGGCTGACTCATTTTCTTCCAGCAGTGCGGTCAGCAGAGACA GATTGTCTTCCTCCTCATCCATGCTGTCAAGAGGACAGTTGTGACAGGAAACTTCGAAGGAG GCTCAGATGCCCAGATGAGCAATGTAGAATCTTGGCCGATGCCGGGACGCCTTCTTCGTTC **ACAGCTGAACCCGCCAAAATCGGACNN** >205

TGAGCCTGGACATGGCGGCCGAGGTACTCACAGTCACGCAAATTCACAGTCTGCGTGCACG GCTCTCCATTCTTCTTCTTGGCTTTACAGGTTCCCAGGTCAAGAGCTTCACCCATAATTAAGA CCTTCTGAGGATGATCGATAGATAAACACACCTCCTCTGAACCATCCTTGGGCTTCATGGGG TTGGCATTGAGGATCCCTACGACAGTCCCCTGCTCCGTCTTCCAGAGCGCTTTGTGAACTTC TCCAAATAAGAACAAGGACACACTTGTGTCAGGTCACGAAGATCATTCAGTTTCCATATGCT GAAGGTTTTTCCACTATTCACACTCTGTGGCGTAACCTTCTTCAATATAACCCCAAATGTCAC CCAATCTATTTCTTCCAGCTTCTCTCTGGCCATCTTTTCCTTGATCTGAGACAGTCTGATCAG TTTTCGGCCGGTCATGTGTCTTCGTTCATATTCTCTGGAGGATACTCGAGCCCGCCTCGAGC CGCAGACCAGGAGAAGGCTTCCACACAGATGGCGATTGAGTCGTTTCCTCACAGAACTTTC ACTCGGGGTCCACCACATATTTGACCTCTAGTTATCCCACTAGGTTTGTTCCGAGAAATCGT CTGTAGGGGTTGGGAGGGTGCACTTGTCATCCTTGAAGATGAGCTTTTGGGATCTGGAGGT GAAGCCTTTGGTGTTCGAGCCACCCTCTTGGTTCTTGGTAGCGCAGGGACATCAAGCTCCG CAGAAAAGCATGTTGACTCCTGAATTCTCTGAACTCTCCTCCCTTAAGAGGTGGCCGGGGA AGCTGCTCTTGTAAGGCCTTCATTTGCTCTTGCAAATTCCTTAATTCCTCTTGCAACTCTTCAT TCGTTTTCTCTCGCCTGGGGGCAGGAGCAGGAGCCCTATTTTCAGTTGACTGTGATGC GGGAACTTCTTCATCTGTTAAGTCCTCCATATCTCCAAAGAGAGTGGCCAGATTTTCCTT TICGICICITGICICICCIGITICICCATCATCAGCCTCTTCTGTATAAGATTCACCGTCGCC GTCGGCATCAAAGAGCTCATCAAATGCGTCGGGCTCGCCATTTTCCCGCGTCAAGAAGTTAT TTTCTTCTGAATTACAATCCAAGGCTGACTCATTTTCTTCCAGCAGTGCGGTCAGCAGAGACA GATTGTCTTCCTCCTCATCCATGCTGTCAAGAGGACAGTTGTGACAGGAAACTTCGAAGGAG GCTCAGATGCCCAGATGAGCAATGTAGAATCTTGGCCGATGCCGGGACGCCTTCTTCGTTC **ACAGCTGAACCCGCCAAAATCGGACNN** >206

NNATGTGGTTACGACCCACTGTATTGAGGTGACGCGATCCATAGGCTGTGGTGTTT GTTTTCGCTGATCCACACAACGTTGGGGCACTGTCTATTCATGTGTTCAAGCTGAAGGCTC GTTCTCGGTTGTCATTTTACAGTGTTTTTCTACGGGGTTACATTACAGGAATGTTGTAGCGAC GTTTAGCCCGTGGAGTATCAACGTCTTGAGACTCCGTGTGAGACTCCCTGGTTTGTTCCACA ACAGTGTGTTTTTAGATTCCGTACCTTTGATTAAGGAACACATCATGCCGTGAAGCCAATTTA TATTCTGCAATTCCGTAGTGCATGTAATGTATTCTGCCGTCTCGTAGTGTGAAGCCATGCTTG GCACATCCAGTTCTTTGATGTCTGGCTGCCTTCTGCGGGCCAACTGTCTTGTGGAATTCGTT GCTCCCAGAGATAGCTTGAACTGCAGATCCCGCACAGCATTGCACTGAGCTGTCGTTGTATC TGAGCCTGGACATGGCGGCCGAGGTACTCACAGTCACGCAAATTCACAGTCTGCGTGCACG GCTCTCCATTCTTCTTGGCTTTACAGGTTCCCAGGTCAAGAGCTTCACCCATAATTAAGA CCTTCTGAGGATGATCGATAGATAAACACACCTCCTCTGAACCATCCTTGGGCTTCATGGGG TTGGCATTGAGGATCCCTACGACAGTCCCCTGCTCCGTCTTCCAGAGCGCTTTGTGAACTTC TCCAAATAAGAACAAGGACACACTTGTGTCAGGTCACGAAGATCATTCAGTTTCCATATGCT GAAGGTTTTTCCACTATTCACACTCTGTGGCGTAACCTTCTTCAATATAACCCCAAATGTCAC CCAATCTATTTCTTCCAGCTTCTCTCTGGCCATCTTTTCCTTGATCTGAGACAGTCTGATCAG TTTTCGGCCGGTCATGTGTCTTCGTTCATATTCTCTGGAGGATACTCGAGCCCGCCTCGAGC CGCAGACCAGGAGAAGGCTTCCACACAGATGGCGATTGAGTCGTTTCCTCACAGAACTTTC **ACTCGGGGTCCACCACATATTTGACCTCTAGTTATCCCACTAGGTTTGTTCCGAGAAATCGT** CTGTAGGGGTTGGGAGGGTGCACTTGTCATCCTTGAAGATGAGCTTTTGGGATCTGGAGGT GAAGCCTTTGGTGTTCGAGCCACCCTCTTGGTTCTTGGTAGCGCAGGGACATCAAGCTCCG CAGAAAAGCATGTTGACTCCTGAATTCTCTGAACTCTCCTCTCCTTAAGAGGTGGCCGGGGA AGCTGCTCTTGTAAGGCCTTCATTTGCTCTTGCAAATTCCTTAATTCCTCTTGCAACTCTTCAT TCGTTTTCTCTCGCCTGGGGGCAGGAGCAGGGAGGACCCTATTTTCAGTTGACTGTGATGC GGGAACTTCTTCATCTGTTAAGTCCTCCATATCTCCAAAGAGAGTGGCCAGATTTTCCTT TTCGTCTCTTGTCTCCCTGTTTCTCCATCATCAGCCTCTTCTGTATAAGATTCACCGTCGCC **GTCGGCATCAAAGAGCTCATCAAATGCGTCGGGCTCGCCATTTTCCCGCGTCAAGAAGTTAT** TTTCTTCTGAATTACAATCCAAGGCTGACTCATTTTCTTCCAGCAGTGCGGTCAGCAGAGACA GATTGTCTCCTCCTCATCCATGCTGTCAAGAGGACAGTTGTGACAGGAAACTTCGAAGGAG GCTCAGATGCCCAGATGAGCAATGTAGAATCTTGGCCGATGCCGGGACGCCTTCTTCGTTC **ACAGCTGAACCCGCCAAAATCGGACNN**

>207

CGCGGTGGCGGCCGCCCGGCAGGTACATGGTTCTTCCTCAGAAAGTGGTTCTTCCT TAATGTGTTTCTTTTTCTTCTTCTTCTTCACAGATGTTTCTTCTTCTTCTTCTCCCACT TTTTCTTCTTCCTCTTCAACTGAATAGGGTAAGTGTAAAGGCACAACAAATTAACACTGTA CCAATGTTTGTTTTGTTTATTTTATAATTGGGAAGGTTCTCCAAGGCCTACCACTAACTTTAAC GAATGATATAGATAGAGCTCAGAGCAATCTTCTCACGATCATGAAGTCATGTATAAAAATCAG GATTAAAACAAAGGTCATCTGATCTCCAATCATTATTGGGAAGAAAGTCAATTATATTAGAAAT GGTTAAGAGCTTGCACTCTGAAGTCAGACGGCCTGGGTTTAATCTACCTGCTGCAACCCTGA AAAATTGTATTTACCCTTGGTGAAGCTCCCTATCTATAAAACTTAAGAATGTCTTATCTTACTG GACTGTTACTGATTTAAAAAGATGATGCATAGAAAGCACTAAGTATAATGCTTAGCACACATT ACAATAAGGACTCAACACATAGCTATCATTAGACATTCAGTGACCAGCTGGGTGCAGTGGCT CACGCCTGT&ATCTCAGCACTTTGGGAGGCTGAGGCGGGAGGATCACTTGAGGTCAGGATA TCAAGACCAGCCTGGCCAACATGGTGAAATCCTGTATCTAATAAAAATACAAAAAAGTTAGCT AGGCATGGTGGTGCATGCCTGTAATCCCAGTTATTCAGGAGGCTGAAGCACGAGAATTGCT TGAACCCAGGAGGCGGAGGCTGCAGTCAGCCAAGATCACGCCACTGCACTTCAGCCTGGG >208

CGCGGTGGCGGCCGCCCGGCAGGTACATGGTTCTTCCTCAGAAAGTGGTTCTTCCT TAATGTGTTTCTTTTTACCCCTTTTCTTCTTCTTCACAGATGTTTCTTCTTCTTCTGCCACT TTTTCTTCTTCTTCTTCAACTGAATAGGGTAAGTGTAAAGGCACAACAAATTAACACTGTA TCAGATCTCATTCCTTCCAAAAACGTTTGAGTCCTAGTTTTTTTCTGTCATTCTCATCAACTAC CCAATGTTTGTTTATTTTATAATTGGGAAGGTTCTCCAAGGCCTACCACTAACTTTAAC GAATGATATAGATAGAGCTCAGAGCAATCTTCTCACGATCATGAAGTCATGTATAAAAATCAG GATTAAAACAAAGGTCATCTGATCTCCAATCATTATTGGGAAGAAAGTCAATTATATTAGAAAT **GGTTAAGAGCTTGCACTCTGAAGTCAGACGGCCTGGGTTTAATCTACCTGCTGCAACCCTGA** AAAATTGTATTTACCCTTGGTGAAGCTCCCTATCTATAAAACTTAAGAATGTCTTATCTTACTG GACTGTTACTGATTTAAAAAGATGATGCATAGAAAGCACTAAGTATAATGCTTAGCACACATT ACAATAAGGACTCAACACATAGCTATCATTAGACATTCAGTGACCAGCTGGGTGCAGTGGCT CACGCCTGTAATCTCAGCACTTTGGGAGGCTGAGGCGGGAGGATCACTTGAGGTCAGGATA TCAAGACCAGCCTGGCCAACATGGTGAAATCCTGTATCTAATAAAAATACAAAAAAGTTAGCT AGGCATGGTGGTGCATGCCTGTAATCCCAGTTATTCAGGAGGCTGAAGCACGAGAATTGCT TGAACCCAGGAGGCGGAGGCTGCAGTCAGCCAAGATCACGCCACTGCACTTCAGCCTGGG >209

NNGTCGCCATTGTGACCCGAGAATTTAATATACTTGTGCCCCGCGCGTGTTTTGTTA ACCGTCCGCCCGAGTGTCCCCTCAATTTCTACCCCTCGCCCCTTAACCCAAAGCTAAATCCA CCATCTGGTATTCTCCCCTAGAGCACCAGATGACCATCTGAAGCTGGACAAGTGTCTCTAAC GGGACAACAGCCAACTGACTCTACCCACTTGGTGAGAAGTGATATACTTCAACTATTTTTTT **AATGCTTCTGAAAGTTTCTTGGCCCACAGAGGACTAGGGTGCAATCATTCCCTGTGTTAGTG** AGTTGGGTTTAATGCAGCTTCAAAATTAGGGTAAAGGGACTTGGTGAAATGTTTACATTAAAT ATTTCACTCCTACCCATTCTTCAGGAAAAAAGGTGAGCTCAGCAAGGCTGGATGCCATTAAG AGATATTTACTGTTTTCTTTTTCTATAGCTAAAAAAGCAAACTTTACACGAAGAAGCTCTTGAT TAAGGAAATTTCAATAGATTCATATTTATAAAATTTTAAACATTTGGCACAGCAAAATTTGGAA AAAATGGGGGAGAAAAAATAGGTCTGGTTGTTGTCCCCCTTTTTCCACCTGCTGCTGGACAG TGATGAGATGCTCACAGAAGAAAAAGGCCTGGCTTTGTACCAGGCTGGCGACAGGTGCTAC CAGGAGTGGGCTGAGGGGAGAAAAACTATCTCCCACTCTTTTGGCCCAGGCAATGTCAACG **ACTTCCACATTCCCTGGCCCACTTCCTGAGCAACCCCAGGTTCGGCTCTGTATAAGGACCCT** GCAATCAAAGGAAACAGTTAAACACCAAACAATTTCTTAAAGCCAAAAAAATATTTTTCATGGA GTTGAACATTTTTCGAGTGTTTTTTTCAAGTGTAAAAGCAGTGACATTTTGTTCAAACAGAA GCAGCATCTAGGAATTCTGGCACTTGGGTTCTAGGGGGTTACAGGTATGCATCATGGATTCT TCTCCCTCGTATTTAAAAAGGCCTCGTGTTTCTATTCCTGAGTTCATACCAACACCTGCTAGC TCTCCCCTCTAGCGGACAGTGGGTGGCCAGCCAGCCTCCCTGGTTAGATTGGGCAATGCCA AGCAGACATCCCTCATTCACCTGCTGGGCTTGCTTTCTGATTCAGAGGTAAGTCGAAGTGCA

Table 4

GAGAAAGAAACTTACAAAAGCACAACCACCAAAGGCAGCCTGAACGGGGAGCCCTGTGCAG **AATTTGAATCAAACATGGGGGGGGGCCCCCCCCAAGCAATAGTATGATGGACTCAAGTCATC** CAAGCACTGTAGTTTAAAAAGGAAAAAACACCCCCCACCATTAAAAGACAACCTTCAAATGTT ACTCAGTATAAAGTTTGCTTAGGCTAAGGTGGAGTCAGAAATGTCTCTAATTGTAGACACC ATCTCTGTGCCACCCTTCCTCATCGGATATGGAGTGATTTCTTCTCTCGCTGCTGCGACG CAGATCTGAGCCACAGTCAGGTACCAATGTACACGACATAGGCACATGTGCAAACACAAAGA AGGTGGGCTGCTTCTTTCTCTCTGCCCCTAGTCCAGGCTCCTTTGCTTCACGTAAGATT AACACTTTCCCATTCCTCTGAAGTTGCTGGAAGGACATTTCCCAGGAAGAACAATTCCTCA CTGCCTATAAACTGTAGTCTCATGTGGGATAGTCAATTGAACATGAGAATCAGAACAATCTG CATCCACTTGTACCCCCAGCTACCTCCCATGTTTCCAGGTATCATTGGCTCTTAACTCCCACA AGCCTGCCTTTTGGCTACCCATCCCAACAATATCAAGAGGGAATGACTAAGTATCAGCTAGA AACTTAGCCATGTCTCAACATTCCTGGATTATCTGAAAAGCTGTCGATGCCCTTTTACAGGTT TATGGTGACAGACCCGTATCATCTTAAAGTATGTTCATAGTTAAGGCTTGACTTAAGAAAATA AGAGAACCAGACATAATGGAAAGACCTCTTCAATAATGTTGTCATGCCTCTCAGTGAACGTG CTCACAGTCACACTTGGTTTGGCTCCCCAAACCCACAATAGAAAAGGAAAAATGAGTATTTT GTTTTTCATCTGTTTTGTATTTAAAGGCATTGGGTTACTTCCTCCTGCCCTCTTTTCTTCCCTG AACAAGAGTTTACAACTCCTCATGGCTTCTTAATAGGTGAAGTAGGTGAAAAGTCTGAGAAG CTCACAGCAGGGTTTGCCGTCCCAACTATGCAGCTGAGAGGTCGCCAGCTCCTGTGCCTTC CCAGCCCCACTATAATTGGCAGTATGTTTGTTCATGTTTCCTGAAAACATTTTCTTTAAAAAG GACAAAGAGCAACATCCAAACATTCCCCAAGCCCCACCCCAGTAAGTCTGAGATTATCTTAT TCCTTCCCTGAAATAATTATAAAGAAGCATTTCAGGCAAAATACTTAGTATTAATGGTCTCTTA GGGACCAAAAAGTATCTTGGCCCTTTGGGAGTTTCCTTGTCAGAAAGTATAAGCCTCAACAG AAGTGTGTTCATATCCCACCTAATTTACAACAGAAGATAACCCCCATCCCCAAAACATA **AAAATACAAGTCTATGCCCATAGAACN** >210

NNATGTGGTTACGACCCACTGTATTGAGGTGACGCGATCCATAGGCTGTGGTGTTT GTTTTCGCTGATCCACACAACGTTGGGGCACTGTCTATTCATGTGTTCAAGCTGAAGGCTC GTTCTCGGTTGTCATTTTACAGTGTTTTTCTACGGGGTTACATTACAGGAATGTTGTAGCGAC GTTTAGCCCGTGGAGTATCAACGTCTTGAGACTCCGTGTGAGACTCCCTGGTTTGTTCCACA ACAGTGTGTTTTTAGATTCCGTACCTTTGATTAAGGAACACATCATGCCGTGAAGCCAATTTA TATTCTGCAATTCCGTAGTGCATGTAATGTATTCTGCCGTCTCGTAGTGTGAAGCCATGCTTG GCACATCCAGTTCTTTGATGTCTGGCTGCCTTCTGCGGGCCAACTGTCTTGTGGAATTCGTT GCTCCCAGAGATAGCTTGAACTGCAGATCCCGCACAGCATTGCACTGAGCTGTCGTTGTATC TGAGCCTGGACATGGCGGCCGAGGTACTCACAGTCACGCAAATTCACAGTCTGCGTGCACG GCTCTCCATTCTTCTTGGCTTTACAGGTTCCCAGGTCAAGAGCTTCACCCATAATTAAGA CCTTCTGAGGATGATCGATAGATAAACACACCTCCTCTGAACCATCCTTGGGCTTCATGGGG TTGGCATTGAGGATCCCTACGACAGTCCCCTGCTCCGTCTTCCAGAGCGCTTTGTGAACTTC TCCAAATAAGAACAAGGACACACATTGTGTCAGGTCACGAAGATCATTCAGTTTCCATATGCT GAAGGTTTTTCCACTATTCACACTCTGTGGCGTAACCTTCTTCAATATAACCCCAAATGTCAC CCAATCTATTTCTTCCAGCTTCTCTCTGGCCATCTTTTCCTTGATCTGAGACAGTCTGATCAG TTTTCGGCCGGTCATGTGTCTTCGTTCATATTCTCTGGAGGATACTCGAGCCCGCCTCGAGC CGCAGACCAGGAGAAGGCTTCCACACAGATGGCGATTGAGTCGTTTCCTCACAGAACTTTC ACTCGGGGTCCACCACATATTTGACCTCTAGTTATCCCACTAGGTTTGTTCCGAGAAATCGT CTGTAGGGGTTGGAGGTGCACTTGTCATCCTTGAAGATGAGCTTTTGGGATCTGGAGGT GAAGCCTTTGGTGTTCGAGCCACCCTCTTGGTTCTTGGTAGCGCAGGGACATCAAGCTCCG CAGAAAAGCATGTTGACTCCTGAATTCTCTGAACTCTCCTCCTTAAGAGGTGGCCGGGGA GACTTCTCAGGGGATTTTTGCAGACGGGCTGGGCTTGCTGTTTAATTGTTGTTACTTTT AGCTGCTCTTGTAAGGCCTTCATTTGCTCTTGCAAATTCCTTAATTCCTCTTGCAACTCTTCAT

>211 NNATGTGGTTACGACCCACTGTATTGAGGTGACGCGATCCATAGGCTGTGGTGTTT GTTTTCGCTGATCCACACACACGTTGGGGCACTGTCTATTCATGTGTTCAAGCTGAAGGCTC GTTCTCGGTTGTCATTTTACAGTGTTTTTCTACGGGGTTACATTACAGGAATGTTGTAGCGAC GTTTAGCCCGTGGAGTATCAACGTCTTGAGACTCCGTGTGAGACTCCCTGGTTTGTTCCACA ACAGTGTGTTTTTAGATTCCGTACCTTTGATTAAGGAACACATCATGCCGTGAAGCCAATTTA TATTCTGCAATTCCGTAGTGCATGTAATGTATTCTGCCGTCTCGTAGTGTGAAGCCATGCTTG GCACATCCAGTTCTTTGATGTCTGGCTGCCTTCTGCGGGCCAACTGTCTTGTGGAATTCGTT GCTCCCAGAGATAGCTTGAACTGCAGATCCCGCACAGCATTGCACTGAGCTGTCGTTGTATC TGAGCCTGGACATGGCGGCCGAGGTACTCACAGTCACGCAAATTCACAGTCTGCGTGCACG GCTCTCCATTCTTCTTCTTGGCTTTACAGGTTCCCAGGTCAAGAGCTTCACCCATAATTAAGA CCTTCTGAGGATGATCGATAGATAAACACACCTCCTCTGAACCATCCTTGGGCTTCATGGGG TTGGCATTGAGGATCCCTACGACAGTCCCCTGCTCCGTCTTCCAGAGCGCTTTGTGAACTTC TCCAAATAAGAACAAGGACACACTTGTGTCAGGTCACGAAGATCATTCAGTTTCCATATGCT GAAGGTTTTTCCACTATTCACACTCTGTGGCGTAACCTTCTTCAATATAACCCCAAATGTCAC CCAATCTATTTCTTCCAGCTTCTCTCGGCCATCTTTTCCTTGATCTGAGACAGTCTGATCAG TTTTCGGCCGGTCATGTCTTCGTTCATATTCTCTGGAGGATACTCGAGCCCGCCTCGAGC CGCAGACCAGGAGAAGGCTTCCACACAGATGGCGATTGAGTCGTTTCCTCACAGAACTTTC ACTCGGGGTCCACCACATATTTGACCTCTAGTTATCCCACTAGGTTTGTTCCGAGAAATCGT CTGTAGGGGTTGGGAGGTGCACTTGTCATCCTTGAAGATGAGCTTTTGGGATCTGGAGGT GAAGCCTTTGGTGTTCGAGCCACCCTCTTGGTTCTTGGTAGCGCAGGGACATCAAGCTCCG CAGAAAAGCATGTTGACTCCTGAATTCTCTGAACTCTCCTCTCCTTAAGAGGTGGCCGGGGA GACTTCTCAGGGGATTTTTGCAGACGGGCTGGGCTTGCTGTTTAATTGTTGTTACTTTT AGCTGCTCTTGTAAGGCCTTCATTTGCTCTTGCAAATTCCTTAATTCCTCTTGCAACTCTTCAT TCGTTTTCTCTCGCCTGGGGGCAGGAGCAGGAGCCCTATTTTCAGTTGACTGTGATGC GGGAACTTCTTCATCTGTTAAGTCCTCCATATCTCCAAAGAGAGTGGCCAGATTTTCCTT TTCGTCTCTTGTCTCCTGTTTCTCCATCATCAGCCTCTTCTGTATAAGATTCACCGTCGCC GTCGGCATCAAAGAGCTCATCAAATGCGTCGGGCTCGCCATTTTCCCGCGTCAAGAAGTTAT TTTCTTCTGAATTACAATCCAAGGCTGACTCATTTTCTTCCAGCAGTGCGGTCAGCAGAGACA GATTGTCTTCCTCCTCATCCATGCTGTCAAGAGGACAGTTGTGACAGGAAACTTCGAAGGAG GCTCAGATGCCCAGATGAGCAATGTAGAATCTTGGCCGATGCCGGGACGCCTTCTTCGTTC ACAGCTGAACCCGCCAAAATCGGACNN >212

>213 >214

CGCGGTGGCGGCCGAGGTACATGCCTACAGATAGTCCCAGCTACTCGGGAGGCTG

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>218

NATACTGTTCAAAAATTGGCCTCCGACCACAAAGACATCCACAGCAGTGTTTCTCGG GTTGGAAAAGCCATTGGATAAGGATTCACTTTAAGAGATTTGGAAACTCTTCCCTTTGGAATT AGCTGTCTGTCTTGATTGGACGTCAGGATCTTTCCAAGCAGGCCTGCGAAGGAAACTTAC CCAAAGGGAAGTCTGTGCTCCATCAGATGTTCCTTCAGGAACAGAAACTGAGGAGGAAGAT GACGGCATGAATGACATGAATCACGAGGTCATGTCATTAATATGGAGTGAAGATTTAAGGGT GCAGGATGTGCGAAGGCTTCTTCAGAGTGCGCATCCTGTCCGTGTCAATGTAGTGCAGTAC CCAGAGCTCAGTGACCACGAGTTCATCGAGGAAAAAGGAAAACAGATTGCTCCAATTGTGTCA GCGAACTATGGCTCTTCCTGTAGGACGAGGAATGTTTACCTTGTTTTCGTACCATCCTGTTC CAACAGAGCCATTGCCTATTCCTAAATTGAATCTGACTGGGCGTGCCCCTCCTCGGAACACA ACAGTAGACCTTAATAGTGGAAACATCGATGTGCCTCCCAACATGACAAGCTGGGCCAGCTT TCATAATGGTGTGGCTGCTGGCCTGAAGATAGCTCCTGCCTCCCAGATCGACTCAGCTTGG ATTGTTTACAATAAGCCCAAGCATGCTGAGTTGGCCAATGAGTATGCTGGCTTTCTCATGGC TCTGGGTTTGAATGGGCACCTTACCAAGCTGGCGACTCTCAATATCCATGACTACTTGACCA AGGGCCATGAAATGACAAGCATTGGACTGCTACTTGGTGTTTCTGCTGCAAAACTAGGCACC ATGGATATGTCTATTACTCGGCTTCTTAGCATTCGCATTCCTGCTCTCTTACCCCCAACGTCC ACAGAGCTGGATGTTCCTCACAATGTCCAAGTGGCTGCAGTGGTTGGCATTGGCCTTGTATA TCAAGGGACAGCTCACAGACATACTGCAGAAGTCCTGTTGGCTGAGATAGGACGGCCTCCT GGTCCTGAAATGGAATACTGCACTGACAGAAAGTCATACTCCTTAGCTGCTGGCTTGGCCCT GGGCATGGTCTGGGGGCATGGCAGCAATTTGATAGGTATGTCTGATCTCAATGTGCCT GAGCAGCTCTATCAGTACATGGTTGGAGGACATAGGCGCTTTCAAACAGGAATGCATAGGG AGAAACATAAATCACCAAGTTATCAAATCAAAGAAGGAGATACCATAAATGTGGATGTGACTT GTCCAGGTGCTACTCTAGCTTTGGCTATGATCTACATAAAAACCAATAACAGTGTCTTCTAGG AAGCCCAGACACATGGAGAAGTTCTGAGTGTTTTGGCCGATAGTCCCAGATGAGGTTCCAG CAACAGCTGGGATCACCCATGAGATGTGAGTGAGGAAGGCTTTGAGATGGTTTCAGCCCTA GCCACCACTGACCTCATAAGAGACCACAAGAATGAGAATCACCTGGCCAAGCCCAGCAGAC **NNNNN**

>219

>220

Table 4

ACCTGCTGTTTGGCCAATTTATCCTACAGGTCTTGGACGGTGGGACCTCTTCAGAGAAGATC TGGTAAGGTCAGCACAGTGGCCATGGAAAAAGAAAACTCTACAGCATATTTCCGAGGA TCAAGGACAAGTCCAGAACGAGATCCTCTCATTCTTCTGTCTCGGAAAAACCCAAAACTTGTT GATGCAGAATACACCAAAAACCAGGCCTGGAAATCTATGAAAGATACCTTAGGAAAGCCAGC TGCTAAGGATGTCCATCTTGTGGATCACTGCAAATACAAGTATCTGTTTAATTTTCGAGGCGT AGCTGCAAGTTTCCGGTTTAAACACCTCTTCCTGTGTGGCTCACTTGTTTTCCATGTTGGTGA TGAGTGGCTAGAATTCTTCTATCCACAGCTGAAGCCATGGGTTCACTATATCCCAGTCAAAA CAGATCTCTCCAATGTCCAAGAGCTGTTACAATTTGTAAAAGCAAATGATGATGTAGCTCAAG TACTGGGAGAACCTCTTGAGTGAATACTCTAAATTCCTGTCTTATAATGTAACGAGAAGGAAA GGTTATGATCAAATTATTCCCAAAATGTTGAAAACTGAACTATAGTAGTCATCATAGGACCAT AGTCCTCTTTGTGGCAACAGATCTCAGATATCCTACGGTGAGAAGCTTACCATAAGCTTGGC ACCTATACCTTGAATATCTGCTATCAAGCCAAATACCTGGTTTTCCTTATCATGCTGCACCCA GAGCAACTCTTGAGAAAGATTTAAAATGTGTCTAATACACTGATATGAAGCAGTTCAACTTTT TGGATGAATAAGGACCAGAAATCGTGAGATGTGGATTTTGAACCCAACTCTACCTTTCATTTT CTTAAGACCAATCACAGCTTGTGCCTCAGATCATCCACCTGTGTGAGTCCATCACTGTGAAA TTGACTGTGTCCATGTGATGATGCCCTTTGTCCCATTATTTGGAGCAGAAAATTCGTCATTTG GAAGTAGTACAACTCATTGCTGGAATTGTGAAATTATTCAAGGCGTGATCTCTGTCACTFTAT TTTAATGTAGGAAACCCTATGGGGTTTATGAAAAATACTTGGGGATCATTCTCTGAATGGTCT AAGGAAGCGGTAGCCATGCCATGCAATGATGTAGGAGTTCTCTTTTGTAAAACCATAAACTC TGTTACTCAGGAGGTTTCTATAATGCCACATAGAAAGAGGCCAATTGCATGAGTAATTATTGC AATTGGATTTCAGGTTCCCTTTTTGTGCCTTCATGCCCTACTTCTTAATGCCTCTCTAAAGCC ACTAAAAATAAAATAAGACTCGAGGGGGGCCCGGTACCCCAATTTGCCCTATTATGGGG CGGATTACAAATTAACTGGCCCGGCGTTTTTACAANNNN >221

NGGCGGCCGAGCTGCCGAGGTACGCGGGACAACAGTCCCCAGGCATCACCATTCA AGATGCATCCAGGGGTCCTGGCTGCCTTCCTCTTCTTGAGCTGGACTCATTGTCGGGCCCT GCCCCTTCCCAGTGGTGGTGATGAAGATGATTTGTCTGAGGAAGACCTCCAGTTTGCAGAG CGCTACCTGAGATCATACTACCATCCTACAAATCTCGCGGGAATCCTGAAGGAGAATGCAGC AAACTTGACGATAACACCTTAGATGTCATGAAAAAGCCAAGATGCGGGGTTCCTGATGTGGG TGAATACAATGTTTTCCCTCGAACTCTTAAATGGTCCAAAATGAATTTAACCTACAGAATTGTG AATTACACCCCTGATATGACTCATTCTGAAGTCGAAAAGGCATTCAAAAAAGCCTTCAAAGTT TGGTCCGATGTAACTCCTCTGAATTITACCAGACTTCACGATGGCATTGCTGACATCATGATC TCTTTTGGAATTAAGGAGCATGGCGACTTCTACCCATTTGATGGGCCCTCTGGCCTGGC TCATGCTTTTCCTCCTGGGCCAAATTATGGAGGAGATGCCCATTTTGATGATGAAAACCT GGACAAGTAGTTCCAAAGGCTACAACTTGTTTCTTGTTGCTGCGCATGAGTTCGGCCACTCC TTAGGTCTTGACCACTCCAAGGACCCTGGAGCACTCATGTTTCCTATCTACACCTACACCGG CAAAAGCCACTTTATGCTTCCTGATGACGATGTACAAGGGATCCAGTCTCTATGGTCCAG CTTGATGCCATTACCAGTCTCCGAGGAGAAACAATGATCTTTAAAGACAGATTCTTCTGGCG CCTGCATCCTCAGCAGGTTGATGCGGAGCTGTTTTTAACGAAATCATTTTGGCCAGAACTTC CCAACCGTATTGATGCTGCATATGAGCACCCTTCTCATGACCTCATCTTCATCTTCAGAGGTA TGGGTCTTCCAAAAGAAGTTAAGAAGATAAGTGCAGCTGTTCACTTTGAGGATACAGGCAAG **ACTCTCCTGTTCTCAGGAAACCAGGTCTGGAGATATGATGATACTAACCATATTATGGATAAA** GACTATCCGAGACTAATAGAAGAAGACTTCCCAGGAATTGGTGATAAAGTAGATGCTGTCTA TGAGAAAAATGGTTATATCTATTTTTTCAACGGACCCATACAGTTTGAATACAGCATCTGGAG TAACCGTATTGTTCGCGTCATGCCAGCAAATTCCATTTTGTGGTGTTAAGTGTCTTTTTAAAA **ATTGTTATTTAAATCCTGAAGAGCATTTGGGGTAATACTTCCAGAAGTGCGGGGTAGGGGAA** GAAGAGCTATCAGGAGAAAGCTTGGTTCTGTGAACAAGCTTCAGTAAGTTATCTTTGAATATG TAGTATCTATATGACTATGCGTGGCTGGAACCACATTGAAGAATGTTAGAGTAATGAAATGGA GGATCTCTAAAGAGCATCTGATTCTTGTTGCTGTACAAAAGCAATGGTTGATGATACTTCCCA CACCACAAATGGGACACATGGTCTGTCAATGAGAGCATAATTTAAAAAATATTTTATAAGGAA ATTITACAAGGGCATAAAGTAAATACATGCATATAATGAATAAATCATTCTTACTAAAAAGTAT

NAGGGAGTCCCACCCACGTGTCCGCGCAAGACGCCTCGTAGGGAGTGTAACTATG GCCGGCCTGCGGAACGAAAGTGAACAGGAGCCGCTCTTAGGCGACACACCCTGGAAGCAGA GAATGGGACATTTTAGAGACTGAAGAGCATTATAAGAGCCGATGGAGATCTATTAGGATTTT <u>ATATCTTACTATGTTTCTCAGCAGTGTAGGGGTTTTCTGTAGTGATGATGTCCATATGGCCATA</u> TCTCCAAAAGATTGATCCGACAGCTGATACAAGTTTTTTGGGCTGGGTTATTGCTTCATATAG TCTTGGCCAAATGGTAGCTTCACCTATATTTGGTTTATGGTCTAATTATAGACCAAGAAAAGA GCCTCTTATTGTCTCCATCTTGATTTCCGTGGCAGCCAACTGCCTCTATGCATATCTCCACAT CCCAGCTTCTCATAATAAATACTACATGCTGGTTGCTCGTGGATTGTTGGGAATTGGAGCAG GAAATGTAGCAGTTGTTAGATCATATACTGCTGGTGCTACTTCCCTTCAGGAAAGAACAAGC TGTAAACAAATATTTTTCTTATCATTTTGCCTTTGCTCATGATGTTCTCATTACCTATAGTTTCT CTTCTGTTCTCATCATTCTTCATCCTTCAAGATTCAGTTTAAACCAGGTGTGGTGGCACGTGC CTGTAATACCAGCTACTCGGGAGACTGAGGTAGCAGAATCTCTTGAGCCCAGGAGTTCGAG GGCAGNCTGGGTAACATAGGGAGACTCCATCTTAAAAAAAACATCACTGGGCGCGGTTTAC AACGTCGTGACTGGGGAAACCCGGGGGTACCAAATTAACGGCTGGGGAGAATCCCCCTTG GCAGAGGGGAAAGGAAAGGCGCCAAGTGCCCCCCAAAGGGCCCCCAGAGAAGAGAC AGAGGGACCATGTCAGGCCCCCCCTAGGGGCCCCCTAACACCACACGGGGGCCCCCCT CCAAAACCCCGCGCTCGCGCCCAGACACCCCCCCAGGGCCACCCGCGGCCGCCACCC

ACGCGGGGGGGCTAAGGTGGGCGGTGAAAGAAGTTTGCTGACGAAGATGGC CTGCAGTTTTGTGATCTGCAATGATTCTTCCCTTCGAGGTCAGCCCATTATCTTTAATCCTGA CTTTTTTGTGGAGAAACTCCGACATGAGAAACCTGAGATTTTCACTGAGTTGGTGGTCAGCA **ATATCACAAGGCTCATCGATTTACCTGGAACTGAGTTGGCTCAGCTGATGGGGGAAGTGGA** CCTTAAGTTGCCTGGCGGGGCTGGCCCAGCATCAGGATTCTTCCGGTCTCTCATGTCTCTC AAGCGAAAGGAAAAAGGAGTGATATTTGGGTCCCCACTGACGGAGGAAGGCATTGCCCAGA GGTAATAGTGTCCGACAGCAGATTTTAAGGGATGCTCTCAATAATGGAACTGACATTGACTT GGAATCAGGGGAATTTCACTCAAATGATGTTGCCACTTTGCTGAAGATGTTTCTAGGAGAGT TGCCGGAGCCTCTGCTGACACATAAACACTTCAATGCACACCTCAAAATCGCTGATTTGATG CAGTTTGATGATAAAGGAAACAAGACCAATATACCAGACAAGGACCGGCAAATTGAGGCTCT CCAGTTGCTCTCCTCATTCTCCCTCCTCCTAATCGTAATTTGCTGAAGTTATTGCTTGATCT CCTATACCAGACAGCAAAGAAACAAGACAAGAACAAGATGTCAGCCTATAACCTTGCCCTTA TGTTTGCACCCCACGTCCTGTGGCCAAAAAATGTCACTGCAAATGACCTTCAGGAGAATATC ACAAAGTTAAACAGTGGGATGGCTTTTATGATTAAACACTCCCAGAAACTTTTTAAGGCTCCT **GCTTATATTCGGGAGTGTGCGAGATTGCACTATTTGGGATCCAGAACTCAGGCATCAAAGGA** TGACCTTGACCTCATAGCTTCATGTCATACTAAGTCCTTTCAGCTGGCAAAGTCTCAGAAACG GAACCGGGTAGATTCCTGCCCTCACCAGGAGGAGCCCAGCACCATACGGAAGAGGCACT GAGAGAGCTGTTTCAACACGTTCATGATATGCCAGAGTCAGCAAAGAAGAACAACTTATTA GACAGTTTAATAAGCAATCATTGACCCAGACACCAGGGCGAGAACCTTCTACTTCCCAGGTA CAAAAGAGGGCTCGTTCGCGCTCCTTCAGTGGGCTTATTAAGCGGAAGGTCCTGGGAAATC

AGATGATGTCAGAAAAGAAAAGAAGAACCCTACTCCAGAATCTGTGGCCATTGGTGAATTG AAGGGAACCAGCAAAGAAAATAGGAACTTATTATTTTCTGGCTCTCCAGCTGTCACGATGAC ACCAACAGATTGAAGTGGTCTGAAGGGAAGAAGAGGGGAAAAAAGGATTTCTCTGAAGG ATCCAGAGTTGTCTCCTATGGTCCATGCAGAATTTTCTGTTTAGTGGGCAGGTGTTATTCCTG CCCACAGCAAAGCTTGGACTTGCAGCTTGCTTGCTGCATTTTGAATTGTCAAAGCCAACTAA TACCGTGACCCGACTGATACCTCTAACCCCACTCACTGGATGATGTTTGCAAGCTGTGCCTT CACTTTTGAAAAAAATATGAAATGTGTGCTCAACTGCCAGTAATTTTTTAAAAAGCACTGTCC CAGTGGATTGATGTTTTTAATGGATATTTTGGGTTTTTCTCTGTTTTGATAGTATTGGGTA AGATATCTTTCCCTCTTTTTCACTTTGAGCTTTGGGAAAACTCTTTATCTTATGAGGCTGTATT CCTCAATACCTAATTTGTGTCCAAAGAATTTATAGCTCTTCTGGACATTTTTTTATTATTTCTTG GGTGTGACATCAGAGTATTTGACCTGCAGTATTGAAAAAGGAGAATTCAGAATGATACAGTA TCTCTCTCTCTCCCCTTCCTCAGTGATGTGAAAATAATTGTGTTTTGCTGAACTTGTTATCTTC **ATTCAATTTCCTCTTGACTAAAACATCTCTGGTGCCAACGTAATACTTCTGAACCACATCACT** GTGACTCAAGGAAAGTCACTGACAGCATAAGAGAAGTTTGCTAAAATATTTGTATGTGGGGG **AAGCTCTGGAGTGTGCCTAGGAGGGGGCTGGCTGCCTTTATGTCCCAGGATGACTCTTTAT** GGGTGGGATTACATTGCACCCTCTGAGGGTGCAGGCTAGACCGTCTCCTGAGAGGAAGTTA GGATCAGAAAGAAGCAAGCAGCCGCCTCTGCAGGGCTGACAGGATTTAAAGGAGAAA TGTTCTTATTTGGAAGCAGCTGTGGCTTGTCACCAATGTTCAAGGAGTGTTACTGTTCCGCC CTCTCTTTGTCAGAAGGGACACAGGTGGTAATTTGGAGATGGGGCCAGAGCTTCTGGCTTTT GGATTTGGTGTTCACTTGTGTTGGATAGAGCAGTGGCATGGCTTTGACCTAGTATGAACT GGTGTCTGCCCAGAGAGCAGCATGTAGCAGGGGGGAATGCTCAGGTTTGTGCCTGGCTCT GTGGAGCTGTACAACCCTTCTCACCCTGTGGGTTGGAGCCGAGTCAGGCCACTATGGGGAA GCAGTTGCCCCACAAAATGTGGTTTGCTGACCTATTTCTAAACTGTTGAATATGCTGCACCAT TGCTGAAATGAAAGATGACTCTGGGGGAGCAGAGCTTGGCCTTGTGCCCAGCTGGCAGCCC CCTCTGCCAGCCTTTCTGCTGCTTTTGCTGCTGTAACAGCAATAGTGGAGAAAAATGTAAAAT TTGGTCTTCCAGCTTAATGCAGTGTGAACAATAGATGGTTAGGAAAACAAAACTGCTTAGAA TAGGTTTCTATTCAATATTTGACTTTTTTTTTTCTTATTAAGAAAATGAAATCCCTTACACCAGAT **ATCAGTTAATTCAAACAGAAAACCCTTTGGGTATCANNNNN**

agtcgactcacgcgtCCGGGAAGCGGGGTGGGAAgaagGgAGGGGATGGGGTTGACCGAG CTGGAGAAAGCCTTGAACTCTATCATCGACGTCTACCACaAGTACTCCCTGATAAAGGGGAA TTTCCATGCCGTCTACAGGGATGACCTGAAGAAATTGCTAGAGACCGAGTGTCCTCAGTATA TCAGGAAAAAGGGTGCAGACGTCTGGTTCAAAGAGTTGGATATCAACACTGATGGTGCAGTT AACTTCCTGGAGTTCCTCATTCTGGTGATAAAGATGGGCGTGGCAGCCCACAAAAAAAGCCA TGAAGAAAGCCACAAAGAGTAGCTGAGTTACTGGGCCCAGAGGCTGGGCCCCTGGACATGT ACAGACTCTCATTTTATGACGTATCCTACTGCATCAGGACATTTGTGTCAATGTCAGGTGACG AGGGGAAATGAAAGTGATGAGACGATGAGAGGAGTGAAATACCAAGGACGCCATACTAGGA AACCCAGGTCTATTTGTTATCAGAGTAAGGATCAAGCCAGATAGCCTGTTATGTAATTTCTCC GATAAAAGATTTTGAAAGCAGGTGCTGTGGGCATCTGTATGGGGAATCGCACTCATAGAATT ATTITCATTTGTAAATATTTGGTATCAggCCAAGCAAGGAAAGAAGCTTTACTgtaTTACCATC TTTccTggaaaAGATTGATTTTTCTCTCTCCCttaggGGATATGAggTATGATACCTGCaaccAAAAT AAGCTGgctgttaaGTGCTCTCTCCTTAACTATTGTCCAAGCAATGTACATCACTCTTGCCTAGAT GAGTGACCATACTTTTTCTTTGCTGCTTGGTTTTTCTATCACTAAAAAGCAAATTTAGGTGGA AGATGGATGGGTAAGTCCTTTGTCCTTGTCAAAAGAATTTAGAAAGGGTAAAGGTGGTGGGA CTTGGGAATTTTTGAAGGAATTTAAGAGCTGTACTTATTTTAAATAATGAGGAAACAATCAGA GAGACTTAACCAGGGTGGCAACTATGGAAGAGTGGGGGTAGAATCCAAGTCTACAGTTCTA CGGCACTGCTTTGTTTATTTTTTCAATCAAGCACACATGAGGGATTGCTTAATAAATTCAAGA GTTTTCTATATAGTTTGGGATTACTACAGACACAGGTACTCTAGCCATGTGACTATTTCAGAT TAGTGTTCCCATTGCTCTCCTATTTTTCATATCTAAATGTGTCATGATTTTAGAATCTCT TTGTAAAGAAAACCAAAAAGAGCCATGCCCAAAAGAATGAGCATGAAATGAAGCAATTCAAG

NNATGTGGTTACGACCCACTGTATTGAGGTGACGCGATCCATAGGCTGTGGTGTTT GTTTTCGCTGATCCACACACGTTGGGGCACTGTCTATTCATGTGTTCAAGCTGAAGGCTC GTTCTCGGTTGTCATTTTACAGTGTTTTTCTACGGGGTTACATTACAGGAATGTTGTAGCGAC GTTTAGCCCGTGGAGTATCAACGTCTTGAGACTCCGTGTGAGACTCCCTGGTTTGTTCCACA ACAGTGTTTTTAGATTCCGTACCTTTGATTAAGGAACACATCATGCCGTGAAGCCAATTTA TATTCTGCAATTCCGTAGTGCATGTAATGTATTCTGCCGTCTCGTAGTGTGAAGCCATGCTTG GCACATCCAGTTCTTTGATGTCTGGCTGCCTTCTGCGGGCCAACTGTCTTGTGGAATTCGTT GCTCCCAGAGATAGCTTGAACTGCAGATCCCGCACAGCATTGCACTGAGCTGTCGTTGTATC TGAGCCTGGACATGGCGGCCGAGGTACTCACAGTCACGCAAATTCACAGTCTGCGTGCACG GCTCTCCATTCTTCTTGGCTTTACAGGTTCCCAGGTCAAGAGCTTCACCCATAATTAAGA CCTTCTGAGGATGATCGATAGATAAACACACCTCCTCTGAACCATCCTTGGGCTTCATGGGG TTGGCATTGAGGATCCCTACGACAGTCCCCTGCTCCGTCTTCCAGAGCGCTTTGTGAACTTC TCCAAATAAGAACAAGGACACACTTGTGTCAGGTCACGAAGATCATTCAGTTTCCATATGCT GAAGGTTTTTCCACTATTCACACTCTGTGGCGTAACCTTCTTCAATATAACCCCAAATGTCAC CCAATCTATTTCTTCCAGCTTCTCTCGGCCATCTTTTCCTTGATCTGAGACAGTCTGATCAG TTTTCGGCCGGTCATGTGTTCGTTCATATTCTCTGGAGGATACTCGAGCCCGCCTCGAGC CGCAGACCAGGAGAAGGCTTCCACACAGATGGCGATTGAGTCGTTTCCTCACAGAACTTTC ACTCGGGGTCCACCACATATTTGACCTCTAGTTATCCCACTAGGTTTGTTCCGAGAAATCGT CTGTAGGGGTTGGGAGGTGCACTTGTCATCCTTGAAGATGAGCTTTTGGGATCTGGAGGT GAAGCCTTTGGTGTTCGAGCCACCCTCTTGGTTCTTGGTAGCGCAGGGACATCAAGCTCCG CAGAAAAGCATGTTGACTCCTGAATTCTCTGAACTCTCCTCTCCTTAAGAGGTGGCCGGGGA GACTTCTCAGGGGATTTTTGCAGACGGGCTGGGCTTGCTGTTTAATTGTTGTTACTTTT AGCTGCTCTTGTAAGGCCTTCATTTGCTCTTGCAAATTCCTTAATTCCTCTTGCAACTCTTCAT TCGTTTCTCTCGCCTGGGGGCAGGAGCAGGAGCCCTATTTTCAGTTGACTGTGATGC GGGAACTTCTTCATCTGTTAAGTCCTCCATATCTCCAAAGAGAGTGGCCAGATTTTCCTT TTCGTCTCTTGTCTCCCTGTTTCTCCATCATCAGCCTCTTCTGTATAAGATTCACCGTCGCC GTCGGCATCAAAGAGCTCATCAAATGCGTCGGGCTCGCCATTTTCCCGCGTCAAGAAGTTAT TTTCTTCTGAATTACAATCCAAGGCTGACTCATTTTCTTCCAGCAGTGCGGTCAGCAGAGACA GATTGTCTTCCTCCTCATCCATGCTGTCAAGAGGACAGTTGTGACAGGAAACTTCGAAGGAG GCTCAGATGCCCAGATGAGCAATGTAGAATCTTGGCCGATGCCGGGACGCCTTCTTCGTTC ACAGCTGAACCCGCCAAAATCGGACNN

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CTCTTCCCCAGCTTCCAAATGAAGAAAAGTCTCTTGAGAGCCACAGAGCAAAGGTTGTAACA AGGTATACCAGAAAGATAAACAAGATGCTGACAGACCCTTGAGTAAAATGAACAGGGCAGTA AATGGAGAGACTCTCAAAACTGGTGGAGATAATAAAACCCTACTTCACTTAGGCAGCTCTGC TCCTGGAAAAGAGAAAAGTGAAACTGATAAGGAAACTTCTTTGGTAAAGCAAACATTAGCAAA ACTTCAACAACAAGAACAAAGGGAGGGGGGCTCAGTGGACACCTACTAAATTGTCTTCCAAAA ATGTTTCAGGTCAGACAGATAAATGTAGGGAGGAAACTTTTAAACAAGAATCACAACCTCCA GAAAAAAATTCAGGACATTCTACAAGCAAAGGAGACAGAGTGGCACAAAGTGAGAGCAAGA GAAGAAAAGCTGAGGAAATTCTGAAAAGTCAGACTCCAAAGGGAGGAGACAAGAAGGAATC CTCCAAGTCATTAGTGCGACAAGGGAGCTTCACTATAGAAAAACCCAGCCCAAACATACCCA TAGAACTTATTCCCCATATAAATAAACAGACTTCCTCTACTCCTTCTTTAGCATTAACATC TGCAAGTAGAATACGAGAAAGAAGTGAGTCTTTGGATCCTGATTCTAGTATGGACACACCC TTATTCTAAAAGACACAGAAGCAGTAATGGCTTTTCTAGAAGCTAAACTACGTGAAGATAATA AAACTGATGAAGGACCAGATACTCCCAGTTATAATAGAGACAATTCTATTTCACCAGAATCTG AAGCGAAAGAGTTTCACTAGCCTCTATAAAGATAGGTGTTCCACAGGTTCTCCTTCCAAAGAT GTTACAAAATCATCATCTTCAGGTGCTAGGGAAAAAATGGAAAAAGAAAACAAAAAGTCGTTCC ACAGATGTGGGTTCAAGAGCAGATGGTCGTAAATTTGTTCAGTCCAGTGGGAGAATAAGACA GCCCTCAGTAGACTTAACAGATGATGACCAAACCTCTAGTGTACCTCATTCTGCCATCTCTG CAGCTGATGAGCATGTACATTCCAAACTGGAAGGAAGTAAAGTAACGAAATCTAAGACTTCT CCGGTGGTATCTGGTTCATCTAGTAAATCAACCACCCTTCCAAGGCCACGACCTACCAGGAC TTCCCTCTTGCGCAGAGCACGACTTGGTGAAGCTTCAGACAGTGAACTTGCTGATGCTGACA AAGCATCTGTTGCTTCTGAAGTATCCACAACAAGTTCTACATCAAAACCTCCCACAGGAAGG CGTAACATCTCTCGGATTGATTTATTGGCTCAGCCTCGTAGAACACGACTTGGCTCACTGTC AGCTCGTAGTGACTCTGAAGCAACAATTTCTAGAAGTAGTGCCTCTTCGAGGACCGCAGAAG CCATCATTAGAAGTGGAGCCAGACTAGTACCATCAGATAAATTTTCTCCTAGAATTAGAGCTA ACAGTATCTCTCGACTCTCAGACTCCAAGGTCAAAAGTATGACCTCAGCTCATGGCTCTGCT TCAGTAAATTCAAGATGGAGGCGCTTTCCTACTGATTATGCTTCCACCTCAGAAGATGAATTT GGATCAAACCGTAATTCCCCTAAACATACCCGTCTACGTACTTCTCCAGCCCTGAAAACCAC AGCAGGAAGACTACATCCGAGATTGGACTGCTCATCGAGAAGAGATAGCCAGGATCAGCCA CATCAGGCACTGCCCCTAGTACCACAGTAAGCACTGCTGCCACCACCCCCTGGCTCTGCCAT AGACACTAGAGAAGAGTTGGTTGATCGTGTTTTTGATGAAAGCCTCAACTTCCGAAAGATTC CTCCATTAGTTCATTCCAAAACACCAGAAGGAAACAACGGTCGATCTGGTGATCCAAGACCT CAAGCAGCAGAGCCTCCCGATCACTTAACAATTACAAGGCGGAGAACCTGGAGCAGGGATG AAGTCATGGGAGATAATCTGCTGCTGTCATCCGTCTTTCAGTTCTCTAAGAAGATAAGACAAT CTATAGATAAGACAGCTGGAAAGATCAGAATATTATTTAAAGACAAAGATCGGAATTGGGATG ACATAGAAAGCAAATTAAGAGCCGAAAGTGAAGTCCCTATTGTGAAAACCTCAAGCATGGAG ATTGATCCTGATGGAACTTTGGAGGCTCTGAACAACATGGGATTTCCCAGTGCTATGTTGCC **ATCTCCACCGAAACAGAAGTCCAGCCCTGTGAATAACCACCACAGCCCGGGTCAGACACCA** ACACTTGGCCAACCAGAAGCTAGGGCTCTTCATCCTGCTGCTGTTTCAGCCGCAGCTGAATT TGAGAATGCTGAATCTGAGGCTGATTTCAGTATACATTTCAATAGATTCAACCCCGATGGGG AAGAGGAAGATGTTACAGTACAAGAATGACTTTCTCTTGATTGTTGAAAAAATCATTACCTGTG GAATGGCTAGGAATATTGGAAGCAGCATAGTGTTGATGTACGCAAAACAAGACAGCTTGGTC TATCAATCCTTTCAAACTATTTAGATAACCACTTGATGCACAAATAGGAAAAAGCAGATTGTG GCAGTGTCGCCTTTTGTGGTTTTATGATTTTCAAATTGAATTTAATGATTACACCCTTTCCCTT CATAGATCTTTTTTCTTTTTTAAGCCATGCTGTGACCTACAAGCAAACTAAATAGCCAACAT TTCTGAACCCCTAAGTCTCCTGTGCCAAGCTGCTCCCTGAAATGGACTTCTTCATCTGTACA GATTTGTTAAACCATTCTATTTGCTTCTTAATAATAGGATTTATATTAGTACTCATTACCATTGG ACACAATGACATAAGTACTCTCCACAGTAAAGCAGACCTTTCACAACAGTCACTCTGTGTCCT AAAATTTTCCAACATAGATGTGATTTATATAACTTTGTTGATACGTAAATTGTCTTGGGGGTTTA CGGAAATTAACTATTATGTTTGCACTAAGATTTGCTGGGAGTGGTAGGTGGACATATCTATAT

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Table 4

ATCAATAAGGACTAACCGTCTTTTTGTACATAGGAGATTGATAATACTGTATTTGTTTTAAGC CCACAGTGTTTTACTCCACTTTCAAAAAGATCAATTTGGCACTTTTTTTCATTTTTTTAATGGA AATAAGATTTGGTCTCTCATTTTAGGTTAAATGATAACTAGAAAGATTAAACTAGACAGATAGT TTAGGTGGAGTATATTTTAAAACTCAGAACATGTATATTGGTCCTGTGTTACCAAGTTTATAT GTGACAGTTGAAAAAGAAATTCCCTTGAAATGATCATGAGGTTAAAAATTTTCTTCATTAGGGG ACTTGGAGAACCAGTAGTCGTAAGATTAGTTGATAGTTTCACTCCCAAGCAATGAATTGCTTC GCAAGACGACGACAAAGGCCTTTGGCCTGTGCTACTAAACAAGAAGCCTATGAAAAATTTCT TCTTTAAACTTGTTTTTTCTCTTTCCAGTAAGTTCACATTTGGATAATTTTAAAAAGAAAAGTAA TTACCTTTGTGTTTCCAGAACACTATAATTGGGGTGTATCTTAATTCAGTTAAATATTATTAGT AGACCTGGATTTTCCCCCTTGACCCCATCAGTCTATAAAGGTTAAACTGCAACTTTTATGAAA TGGTCTTTAATATTTCCACAATAATCCTGTGCTATATTTGTTTTAAGAAACAAAGTAACTCTAT ACACTTCAAGACTTTACAGGATTTTTTAAATCCTGTATTGTTGGATCAATTAATAAAGATGCAA AAAAACTTTATAGAGATGTAAAAACAAAACTATAATGGATCTCCTATTTTTCTTTAAATACAAAA AAAAAAAGGTAAATGAACTATTCTCCTTGTAAAGCTAAATTCCCCATTCTGTCTAATAAAGGAA GACTGAAAAAAGGTTTTAAAGAACATAAATGGAAAGATACAAATGCTTTGAAGGAATAAACGA AATGTTAAAACAGGGTCAATCCATTTGAAGAAAAAGTTGGACAAAATAATCAGCATTGCTCCC TCTTTATTAATATTTGGGTACTGATTATCCACATGGAAGTAGAAGGTAAGGAGTTTAGG AAAATACTAGAATCTACTCTGCTTACATTCTTGTTTAAGTGTTTACACAGTTTGGTTCAATTAT CTGGAACTTTAAAAAAAAAAAAAAACGGCACGAGGGGGGGCCCGGTACCCAATTCCCCCTA TAGTGAGTCGTATTACGCGCGCTCACTGGCCGCCGTTTTACACACGTCGTGACTGGGAAAA CCCTGGCGTTCCCAACTTAATCGCCTTGCANNN >228

NNNNNNNNNNNNNNNNNNNNNNNNNNNTAGTAGAGACGAGGTTTCTCCATGTT TGGGATGACAGGTGTGAGCCACCCCCCAGCCTGTTGTAAAACTTCTTAAACTTTAAAAA AAAATAACCCATGAAAATGGCTTAATAAAATAACATTCCAATAAAACTCTTCTATAATACTTTTT AAAAAAAAAAAAAAAAAAAAAAAAAAGTACCTGCCGGGCGGCCGCTCGACCGCCCGGGC AGGTACGGCCTGTCCGAATGATGCGTTGCAGTTGATTTGTCTTCACCCAAATAATTTCATCTA CAGAGGAAGAGAAAGCCATCATCCTGTAGTACCTCGGCCTTGAGCCTGCGCATCTCATCAT CTGTCAGGGTCCCATAGGGCAGTTCCATGTGAATATCNCAGGGTGGGTCAGCCATCACAAC TGCAAACTTGCCCAAGATACTGACGTCCAGGTAGCGGATATCACAACAGATCCACTGCATAA AGTGGTATTTGGTCATCTTCCCTACTTTAACTCTGAGATTCATGGCCCGAGTCCCTCTTTTCC ATTTGATTTTTCCTATTCCCTTAAAAGCTTATCTATCCCCCTCCATTCCCAATAAGCAAGACAA GATTGCTGAATTATGCTCTGCTTTCTTAACGTGTATGGCTGCCCTATCAAACATAAGTCCGTA **AGTTGAGACGAGTTTTCTGAGCAGACAGGTACCTGAGGTGGGAAGAGTCGGTCTGCACTGG AATCACCTCCGACACTCTGTGTAAGAGCAAGCTCCTGGCTTGGCGTGTGGTCTTTGCTGCCA** GGGGCCTCAGAATCCATGCAAGCATCAATTTCATAGTGAACATACTCGGACGC >230

NAGTCGACCACGCGTCCGTGGCATTATTTCTCTCTCTACAAGGAGCCTTAGGAGG
TACGGGAGCTCGCAAATACTCCTTTTGGTTTATTCTTACCACCTTGCTTCTGTGTTCCTTGG
GAATGCTGCTGTGCTTATGCATCTGGTCTCTTTTTGGAGCTACAGTGGACAGGCATTTGTGA
CAGCACTATGGGACTGAGTAACATTCTCTTTGTGATGGCCTTCCTGCTCTCTGGTGCTGCTC
CTCTGAAGATTCAAGCTTATTTCAATGAGACTGCAGACCTGCCATGCCAATTTGCAAACTCTC
AAAACCAAAGCCTGAGTGAGCTAGTAGTATTTTGGCAGGACCAGGAAAACTTGGTTCTGAAT
GAGGTATACTTAGGCAAAGAGAAATTTGACAGTGTTCATTCCAAGTATATGGGCCGCACAAG
TTTTGATTCGGACAGTTGGACCCTGAGACTTCACAATCTTCAGATCAAGGACAAGGGCTTGT
ATCAATGTATCATCCATCACAAAAAGCCCACAGGAATGATTCCGCATCACCAGATGAATTCTG
AACTGTCAGTGCTTGCTAACTTCAGTCAACCTGAAATAGTACCAATTTCTAATATAACAGAAA
ATGTGTACATAAATTTGACCTGCTCATCTATACACGGTTACCCAGGAACCTAAGAAGATGAGTG

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Table 4

TTTTGCTAAGAACCAAGAATTCAACTATCGAGTATGATGGTATTATGCAGAAATCTCAAGATA ATGTCACAGAACTGTACGACGTTTCCATCAGCTTGTCTGTTTCATTCCCTGATGTTACGAGCA ATATGACCATCTTCTGTATTCTGGAAACTGACAAGACGCGGCTTTTATCTTCACCTTTCTCTA TAGAGCTTGAGGACCCTCAGCCTCCCCAGACCACATTCCTTGGATTACAGCTGTACTTCCA ACAGTTATTATATGTGTGATGGTTTTCTGTCTAATTCTATGGAAATGGAAGAAGAAGAAGCGG AGAAAAGAGAAAAAATCCATATACCTGAAAGATCTGATGAAGCCCAGCGTGTTTTTAAAAGTT GTATTCATTTTTCTACCCTTTCCTTTGTAAGTTCCTGGGCAACCTTTTTGATTTCTTCCAGAA GGCAAAAAGACATTACCATGAGTAATAAGGGGGCTCCAGGACTCCCTCTAAGTGGAATAGC CTCCCTGTAACTCCAGCTCTGCTCCGTATGCCAAGAGGAGACTTTAATTCTCTTACTGCTTCT TTTCACTTCAGAGCACACTTATGGGCCAAGCCCAGCTTAATGGCTCATGACCTGGAAATAAA AAATAGACCTCTCAATTTCTGGAAAACTGCCTTTTATCTGCCCAGAATTCTAAGCTGGTGCCC TTATGACCTTATAGTGTTAATATCTTGAAACATAGAGATCTATGTACTGTAATAGTGTGATTAC TATGCTCTAGAGAAAAGTCTACCCCTGCTAAGGAGTTCTCATCCCTCTGTCAGGGTCAGTAA GGAAAACGGTGGCCTAGGGTACAGGCAACAATGAGCAGACCAACCTAAATTTGGGGAAATT AGGAGAGGCAGAGATAGAACCTGGAGCCACTTCTATCTGGGCTGTTGCTAATATTGAGGAG GCTTGCCCCACCCAACACGCCATAGTGGAGAGAACTGAATAAACAGGAAAATGCCAGAGCT TGTGAACCCTGCTTGTCTTGAAGAACTGACTAGTGAGATGGCCTGGGGAAGCTGTGAAAGA AGAAATACATGAAATGTCTGGTCTGTTCACCCCATCAACAAGTCTTGAAACAAGCAACAGAT TTTGCGAGATACCCAAGCTATTGGGAN >232

GAACCATCTCTACATTTTTTTTACTCAATCGACCCTGAATGCTACAGCATTATCCAGGGCCGC AGAAAACACATAATACTTTATTCCTGATAAACCATTCGATGTCCTTAAGTCCGCCCATATC ACCGTACATTCTGTGCCATCAAGAAATTTACTCAGCTGGGCACAGTGGCGCGATCTCAGCTC ACTGCAACCTCCGCCTCAGAGGTTCAAGTGATTCTCCTGCCTCAGCCTCTGGAATAGCTGG GACTACAGGCACCTGCCACCACACCCAGCTAACTTTTTGTATTTTTAGAGAAGATGGGGTTT CATCATGTTGGCCCAGCTGGTCTCAAACTCCTGATCTCAGTGATCCATCTGCCTCAGCCTCC AGAATGATTTGCAAATTTGAAAATAGGAACTCCACTAGGAATGCCGGATAGAAGAGTGCTTC ACATTTGTAGAGGGAGACAAGAACTAAATATCACGACGTCTTTCTGAGCCTTTTGGTTTGCTA ACGTGCCCAAATTCTTATTCCAAACGGTATAAGATAATTATGTGTAAATGAATACCAGCTCT GAGTCTTGCTCTGTTGTCCAGCCTGGAGTGCAGTGGCATGATCTCGGCTCACTGCAACCTC TGCCTCCCAGGTTCAAGCGATTCTCCTGCCTCAGCCTCCTAAGTAGCTGGTATTACAGGAGT **GTGCCATTAGCCTGGCT** >233

qGCGGCCGCCCGGGCAGGTACGCGGGGGCCAGTTCTCTTCGGGGACTAACTGCAA CGGAGAGACTCAAGATGATTCCCTTTTTACCCATGTTTTCTCTACTATTGCTGCTTATTGTTAA CCCTATAAACGCCAACAATCATTATGACAAGATCTTGGCTCATAGTCGTATCAGGGGTCGGG ACCAAGGCCCAAATGTCTGTGCCCTTCAACAGATTTTGGGCACCAAAAAGAAATACTTCAGC **ACTTGTAAGAACTGGTATAAAAAGTCCATCTGTGGACAGAAAACGACTGTGTTATATGAATGT** TGCCCTGGTTATATGAGAATGGAAGGAATGAAAGGCTGCCCAGCAGTTTTGCCCATTGACCA TGTTTATGGCACTCTGGGCATCGTGGGAGCCACCACACGCAGCGCTATTCTGACGCCTCA CTTGGGACAACTTGGATTCTGATATCCGTAGAGGTTTGGAGAGCAACGTGAATGTTGAATTA CTGAATGCTTTACATAGTCACATGATTAATAAGAGAATGTTGACCAAGGACTTAAAAAATGGC ATGATTATTCCTTCAATGTATAACAATTTGGGGCTTTTCATTAACCATTATCCTAATGGGGTTG TCACTGTTAATTGTGCTCGAATCATCCATGGGAACCAGATTGCAACAAATGGTGTTGTCCAT GTCATTGACCGTGTGCTTACACAAATTGGTACCTCAATTCAAGACTTCATTGAAGCAGAAGAT GACCTTTCATCTTTTAGAGCAGCTGCCATCACATCGGACATATTGGAGGCCCTTGGAAGAGA

CGGTCACTTCACACTCTTTGCTCCCACCAATGAGGCTTTTGAGAAACTTCCACGAGGTGTCC TAGAAAGGATCATGGGAGACAAAGTGGCTTCCGAAGCTCTTATGAAGTACCACATCTTAAAT AATTGAGATAGGATGTGACGGTGACAGTATAACAGTAAATGGAATCAAAATGGTGAACAAAA CCAAACAAGTTATTGAGCTGGCTGGAAAACAGCAAACCACCTTCACGGATCTTGTGGCCCAA TTAGGCTTGGCATCTGAGGCCAGATGGAGAATACACTTTGCTGGCACCTGTGAATAA CATATTGAAAGTAAAAGTTGGCCTTAATGAGCTTTACAACGGGCAAATACTGGAAACCATCG GAGAAAGGGAGTAAGCAAGGGAGAAACGGTGCGATTCACATATTCCGCGAGATCATCAAGC CAGCAGAGAAATCCCTCCATGAAAAGTTAAAACAAGATAAGCGCTTTAGCACCTTCCTCAGC CTACTTGAAGCTGCAGACTTGAAAGAGCTCCTGACACACCTGGAGACTGGACATTATTTGT GCCAACCAATGATGCTTTTAAGGGAATGACTAGTGAAGAAAAAGAAATTCTGATACGGGACA AAAATGCTCTTCAAAACATCATTCTTTATCACCTGACACCAGGAGTTTTCATTGGAAAAGGAT TTGAACCTGGTGTTACTAACATTTTAAAGACCACACAGGAAGCAAAATCTTTCTGAAAGAAG TAAATGATACACTTCTGGTGAATGAATTGAAATCAAAAGAATCTGACATCATGACAACAAATG GTGTAATTCATGTTGTAGATAAACTCCTCTATCCAGCAGACACCTGTTGGAAATGATCAAC TGCTGGAAATACTTAATAAATTAATCAAATACATCCAAATTAAGTTTGTTCGTGGTAGCACCTT CAAAGAAATCCCCGTGACTGTCTATACAACTAAAATTATAACCAAAGTTGTGGAACCAAAAAT TAAAGTGATTGAAGGCAGTCTTCAGCCTATTATCAAAACTGAAGGACCCACACTAACAAAAGT CAAAATTGAAGGTGAACCTGAATTCAGACTGATTAAAGAAGGTGAAACAATAACTGAAGTGAT CCATGGAGAGCCAATTATTAAAAAATACACCAAAATCATTGATGGAGTGCCTGTGGAAATAAC TGAAAAAGAGACACGAGAAGAACGAATCATTACAGGTCCTGAAATAAAATACACTAGGATTT CTACTGGAGGTGGAGAAACAGAAGAAACTCTGAAGAAATTGTTACAAGAAGAGGTCACCAAG GTCACCAAATTCATTGAAGGTGGTGATGGTCATTTATTTGAAGATGAAGAAATTAAAAGACTG CTTCAGGGAGACACACCCGTGAGGAAGTTGCAAGCCAACAAAAAGTTCAAGGATCTAGAA GACGATTAAGGGAAGGTCGTTCTCAGTGAAAATCCAAAAACCAGAAAAAAATGTTTATACAAC CCTAAGTCAATAACCTGACCTTAGAAAATTGTGAGAGCCAAGTTGACTTCAGGAACTGAAAC GAGAAACATGAGGGAAATTGTGGAGTTAGCCTCCTGTGGTAAAGGAATTGAAGAAAATATAA CACCTTACACCCTTTTTCATCTTGACATTAAAAGTTCTGGCTAACTTTGGAATCCATTAGAGAA AAATCCTTGTCACCAGATTCATTACAATTCAAATCGAAGAGTTGTGAACTGTTATCCCATTGA AAAGACCGAGCCTTGTATGTATGTTATGGATACATAAAATGCACGCAAGCCATTATCTCTCCA TGGGAAGCTAAGTTATAAAAATAGGTGCTTGGTGTACAAAACTTTTTATATCAAAAGGCTTTG CACATTTCTATATGAGTGGGTTTACTGGTAAATTATGTTATTTTTTACAACTAATTTTGTACTCT CAGAATGTTTGTCATATGCTTCTTGCAATGCATATTTTTTAATCTCAAACGTTTCAATAAAACC ATTTTTCAGATATAAAGAGAATTACTTCAAATTGAGTAATTCAGAAAAACTCAAGATTTAAGTT AAAAAGTGGTTTGGACTTGGGAACAGGACTTTATACCTCTTTTACTGTAACAAGTACAAATTA CATCATATATCTGTCCTGTTTCTTCATTTTTCTCAATTTCCACACGCTATAAATTTAGATCGGC CAATAAAGT

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>235

>236

TATAGGAGTCGACCCACGCGTCCGCTTAAAGAGGAAAAAGAGGGAAGAAGATGAG GAGAATGACAATGATAATGAAAGTGACCATGATGAAGCTGACTCCTAAACCAAAAGTGCTTT AAAAACCAGCCTGGCGAGGACAGCCCTGGACCCACTCCACTGTCTCTAAGTAAACACAGCA CTGCCCGCTTTTAGCGTCTTCACTTCTTCACAGAGTTCCAGTGCGTGGTATTCTTTCGAGGT

ACGCGGGGGGACGTAAGGTGGGGCGGTGAAAGAAGTTTGCTGACGAAGATGGC CTGCAGTTTTGTGATCTGCAATGATTCTTCCCTTCGAGGTCAGCCCATTATCTTTAATCCTGA CTTTTTTGTGGGGAAACTCCGACATGAGAAACCTGAGATTTTCACTGAGTTGGTGGTCAGCA ATATCACAAGGCTCATCGATTTACCTGGAACTGAGTTGGCTCAGCTGATGGGGGAAGTGGA CCTTAAGTTGCCTGGCGGGGCTGGCCCAGCATCAGGATTCTTCCGGTCTCTCATGTCTCTC AAGCGAAAGGAAAAAGGAGTGATATTTGGGTCCCCACTGACGGAGGAAGGCATTGCCCAGA GGTAATAGTGTCCGACAGCAGATTTTAAGGGATGCTCTCAATAATGGAACTGACATTGACTT GGAATCAGGGGAATTTCACTCAAATGATGTTGCCACTTTGCTGAAGATGTTTCTAGGAGAGT TGCCGGAGCCTCTGCTGACACATAAACACTTCAATGCACACCTCAAAATCGCTGATTTGATG CAGTTTGATGATAAAGGAAACAAGACCAATATACCAGACAAGGACCGGCAAATTGAGGCTCT CCAGTTGCTCTCCTCATTCTCCCTCCTCATCGTAATTTGCTGAAGTTATTGCTTGATCT CCTATACCAGACAGCAAAGAACAAGACAAGAACAAGATGTCAGCCTATAACCTTGCCCTTA TGTTTGCACCCCACGTCCTGTGGCCAAAAAATGTCACTGCAAATGACCTTCAGGAGAATATC ACAAAGTTAAACAGTGGGATGGCTTTTATGATTAAACACTCCCAGAAACTTTTTAAGGCTCCT GCTTATATTCGGGAGTGTGCGAGATTGCACTATTTGGGATCCAGAACTCAGGCATCAAAGGA TGACCTTGACCTCATAGCTTCATGTCATACTAAGTCCTTTCAGCTGGCAAAGTCTCAGAAACG GAACCGGGTAGATTCCTGCCCTCACCAGGAGGAGCCCAGCACCATACGGAAGAGGCACT GAGAGAGCTGTTTCAACACGTTCATGATATGCCAGAGTCAGCAAAGAAGAACAACTTATTA GACAGTTTAATAAGCAATCATTGACCCAGACACCAGGGCGAGAACCTTCTACTTCCCAGGTA CAAAAGAGGGCTCGTTCGCGCTCCTTCAGTGGGCTTATTAAGCGGAAGGTCCTGGGAAATC AGATGATGTCAGAAAAGAAAAAGAAGAACCCTACTCCAGAATCTGTGGCCATTGGTGAATTG **AAGGGAACCAGCAAAGAAAATAGGAACTTATTATTTTCTGGCTCTCCAGCTGTCACGATGAC** ACCAACAAGATTGAAGTGGTCTGAAGGGAAGAAGGGGGAAAAAAGGATTTCTCTGAAGG ATCCAGAGTTGTCTCCTATGGTCCATGCAGAATTTTCTGTTTAGTGGGCAGGTGTTATTCCTG CCCACAGCAAAGCTTGGACTTGCAGCTTGCTGCATTTTGAATTGTCAAAGCCAACTAA TACCGTGACCCGACTGATACCTCTAACCCCACTCACTGGATGATGTTTGCAAGCTGTGCCTT CACTTTTGAAAAAAATATGAAATGTGTGCTCAACTGCCAGTAATTTTTTAAAAAGCACTGTCC CAGTGGATTGATGTTTTTAATGGATATTTTGGGTTTTTCTCTGTTTTGATAGTATTGGGTA AGATATCTTTCCCTCTTTTCACTTTGAGCTTTGGGAAAACTCTTTATCTTATGAGGCTGTATT CCTCAATACCTAATTTGTGTCCAAAGAATTTATAGCTCTTCTGGACATTTTTTATTATTTCTTG GGTGTGACATCAGAGTATTTGACCTGCAGTATTGAAAAAGGAGAATTCAGAATGATACAGTA TCTCTCTCTTTCCCTTTCCTCAGTGATGTGAAAATAATTGTGTTTTTGCTGAACTTGTTATCTTC ATTCAATTTCCTCTTGACTAAAACATCTCTGGTGCCAACGTAATACTTCTGAACCACATCACT **GTGACTCAAGGAAAGTCACTGACAGCATAAGAGAAGTTTGCTAAAATATTTGTATGTGGGGG** AAGCTCTGGAGTGTGCCTAGGAGGGGGGCTGGCTTTATGTCCCAGGATGACTCTTTAT GGGTGGGATTACATTGCACCCTCTGAGGGTGCAGGCTAGACCGTCTCCTGAGAGGAAGTTA

Table 4

NNCTCAGAGGATTACCGACCCACGCGTCCGCAACATCCTGGCTTAGTATTGTGTGC AAAATCAGAGAGGGGTGCAAGATCCTGATTTTTCAGGAGTTCAAGCGACAATGGCAGCCCA ATACGGCAGTATGAGCTTCAACCCCAGCACACCAGGGGCCAGTTATGGGCCTGGAAGGCAA GAGCCCAGAAATTCCCAATTGAGAATTGTGTTAGTGGGTAAAACCGGAGCAGGAAAAAGTG CAACAGGAAACAGCATCCTTGGCCGGAAAGTGTTTCATTCTGGCACTGCAGCAAAATCCATT ACCAAGAAGTGTGAGAAACGCAGCAGCTCATGGAAGGAAACAGAACTTGTCGTAGTTGACA CACCAGGCATTTTCGACACAGAGGTGCCCAATGCTGAAACGTCCAAGGAGATTATTCGCTG CATTCTTCTGACCTCCCAGGGCCTCATGCTCTGCTTCTGGTGGTTCCACTGGGCCGTTACA CTGAGGAAGAGCACAAAGCCACAGAGAAGATCCTGAAAATGTTTGGAGAGAGGGGCTAGAAG TTTCATGATTCTCATATTCACCCGGAAAGATGACTTAGGTGACACCAATTTGCATGACTACTT **AAGGGAAGCTCCAGAAGACATTCAAGACTTGATGGACATTTTCGGTGACCGCTACTGTGCGT** TAAACAACAAGGCAACAGGCGCTGAGCAGGAGGCCCAGAGGGCACAGTTGCTGGGCCTGA TCCAGCGCGTGGTGAGGGAGAACAAGGAAGGCTGCTACACTAATAGGATGTACCAAAGGGC GGAGGAGGAGATCCAGAAGCAAACACAAGCAATGCAAGAACTCCACAGAGTGGAGCTGGA GAGAGAGAAAGCGCGGATAAGAGAGGAGTATGAAGAGAAAATCAGAAAAGCTGGAAGATAAA GTGGAGCAGGAAAAGAAGAAGCAAATGGAGAAGAACTAGCAGAACAGGAGGCTCACT ATGCTGTAAGGCAGCAAAGGGCAAGAACGGAAGTGGAGAGTAAGGATGGGATACTTGAATT AATCATGACAGCGTTACAGATTGCTTCCTTTATTTTGTTACGTCTGTTCGCGGAAGATTAAAC TAGCATAGTCGAGTGCTCTAGTTTCTGTCTCTCAGGCACTCGTAACTAAGGACCACCATTGG CCATTGGTAGATGTTTGATTGACTTAACAAGAGAGGGACAAATTTTCAATTTGTGAAACTCCA AAGCAGAAAGTATTGGTGCTTGCTACCTTGTGAATTCTTCCTTAGACATGCAGAGAAAATGTA TGCAAGAGACCAAAAAGATGGCTCCAAGCTATGTCATGTTACCTGTAATAAAATCTTTTCTTC **AATTCCATTGTCATATAAGGAGTCAAATTGTTTCTTATCATTTGTTCATTGAAGAACAGAGACC** TGTCTGGAAAATCGATCTCTACAAATTCAATTAAATAATGATCCCCAAATGCTGAAAAAGTGA **AATACAGCAATTCAACAGATAATAGAGCAATGTTTAGTATATTCAGCTGTATCTGTAGAAACT** CTTTGACGAACCTCAATTTAACCAATTTGATGAATACCCAGTTCTCTTCTTTTCTAGAGAAAGA TAGTTGCAACCTCACCTCACTCAACACTTTGAATACTTATTGTTTGGCAGGTCATCCAC >239

GTTACTGTTCCAACTATAAATCCAGGATGACTGTTACTCAGATTCAGTGCTATGTAGA AAATAGAATGCACAGCCAAAAACATAATTTGGGGATGACTGGCAGCACCTTTTTTTCCCTTTC TTAAGAGGCTAACTGAAAGTTGATTAGGATTCTTGAGAGAACGTAACTAAAAGTTGAATCAAA TCTATATTCACTGCTATAGATTTAATAAAAGGAAAGACCACTGTAAAGATGCAACTACAACCT GATGCGTCTGCTGAGGAGGAGGACTGGGCAGCTTGTTGAAGGCTCGTCAAAAGTAGCGCTTA GTTATCACAAGGCCTGCACTCAACCTCAAAAGCGTAAGGTTTAGGCCAGGCACGGTAGCTC ATGCCTGTAATCCCAGCACTTTGTGAGGCAGAGGCGGGTGGATCACCTGAGGTCAGGAGTT CCGAGACCAGCCTGACCAACATGGCAAAACCCTGTCTCTACTAAAAATACAAAAATTAGCTG GGAGTGGTGGCGCACACCTGTAGTCCCAGCTATTGGGGAAGCTGAGGCAGGAGAATCACTT GAACCTGGGAGGCAGAGGTTGCAGTGAGCCGAGATCACATCACTGCACTCCAGCCTGGGC AACAGAGCAAGACTCCGTCTCAAAAAAAAAAAGCATAAGGTCTGCCTACCTCATGGGCACCC AAACAGTTCAGTGCCAAACTAGTACCAGTAAAGCCATGCCTGCTCTTTCACCAACAGTCCA GAGTATATTTCAAAAATATCTTTATTAACCAAGGAAGCAATTACTGCAAACATCAGGACAAAG GACATTCTAATCTAGGACTTGAGTTAAATAGAGGTTTACACCTAATCACAAGAAGAGAGGGGA AAGCAATTACGTGTGCTGAAACCAAGTTTCATCAATGACAAATATTTTAAAATGACTTTTAAAA TACTTAACATTGGCCAGGCACGGTGGCTCCCGCCTGTAATCCCAGCACTTTGGGAGGCCCA GGCGGCAGATCACTTGAGGTCAGGAGTTCAAGACCAGCCTGGCCAACATGGTGAAATCCT GTCTCTACTAAAAGTACAAAAATCGGTGGGGGGGTGGTGCACACCCTGTAATCCCAGCTAC TTGGGAGGCTGAGGCAGGAGATCGCTTGAACCTGGGAGGTGGAGGTTGCAGTGAGGCAA GATTGCGCCATTGCACTCCAGCCTGAGGGACAGTGAGACCGGACGCGTGGGTGACNNN >240

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PCT/US00/33312

GTCGCATCAAAGAGCTCATCAAATGCGTCGGGCTCTCTGTATAAGATTCACCGTCGCCGTCGCCATCATCAAAGAGCTCATCAAATGCGTCGGGCTCGCCATTTTCCCGCGGTCAAGAAGTTAT
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GATTGTCTTCCTCCTCATCCATGCTGTCAAGAGGACAGTTGTGACAGGAAACTTCGAAGGAG
GCTCAGATGCCCAGATGAGCAATGTAGAATCTTGGCCGATGCCGGGACGCCTTCTTCGTTC

ACAGCTGAACCCGCCAAAATCGGACNN >243

NNCTCCCGCGGTGGCGGCCGAGGTACGCGGGGTGCTGGGATTACAGGCACGAG CCAGTGCGCCCAGCTGCCTCTGTTTCTTTTATTAGCTGTTCTGGACTGTGGGGCTCCTTGGG CAGATGCTGTATTATGGGGATAAGCCACACTTTTTGAACTGGCCCGGTCAGGGGGGACA TAACCATTTCCTGTGCCACCCATCAATCCCCACCTATTCTGAGTGTAGGCTCCTCCCCTGC TTGAGTAATGGCCACAGATCTTGGCTCGGCACTCCTAAGCTGCATGTTGAATTCCTGGGACA ACAAGACTGGCTTGTGGTTCCATTCTCCAGATCCTTGGGTTGGCTTCTGGGTGCACTAGGAG ATCTGAAATGCTCTCAGGCCACCAGGAAAGTACTGGAAGTAAAGTCTGACTCTAAAGAAGAT GAAAATCTAGTAATTAATGAAGTAATAAATTCTCCCAAAGGGAAAAAACGCAAGGTAGAACAT CAGACAGCTTGTGCTTGTAGTTCTCAATGCACGCAAGGATCTGAAAAGTGTCCTCAGAAGAC TACTAGAAGAGACGAAACGAAACCTGTGCCTGTAACTTCTGAGGTGAAAAGATCAAAAATGG CTACTTCAGTGGTCCCGAAAAAGAATGAGATGAAGAAGTCGGTTCATACACAAGTGAATACT AACACAACACTCCCAAAAAGTCCACAGCCATCAGTGCCTGAACAAAGTGATAATGAGCTGGA GCAAGCAGGAAAGAGCAAACGAGGTAGTATTCTCCAGCTCTGTGAAGAAATTGCTGGTGAA ATTGAGTCAGATAATGTAGAGGTAAAAAAGGAATCTTCACAAATGGAAAGTGTAAAGGAAGA AAAGCCCACAGAAATAAAATTGGAAGAGACCAGTGTTGAAAGACAAATACTTCATCAGAAGG AAACAAATCAGGATGTGCAATGTAATCGTTTTTTCCCAAGTAGAAAAACAAAGCCTGTGAAAT GTATACTAAATGGAATAAACAGCTCAGCCAAGAAGAACTCCAACTGGACTAAAATTAAACTCT CAAAATTTAACTCTGTGCAGCACAATAAGTTGGACTCTCAAGTTTCCCCTAAATTAGGCTTAT TACGAACCAGTTTTTCACCACCAGCTTTAGAAATGCATCATCCAGTGACTCAAAGTACATTTT CTGAAGAAGTGAAAATTAATGATATTACAGTAGAAATTAATAAAACCACAGAAAGGGCTCCTG AAAATTGTCATTTGGCCAATGAGATAAAACCTTCTGACCCACCATTGGATAATCAGATGAAAC ATTCTTTTGATTCAGCATCAAATAAGAATTTCAGCCAATGTTTGGAATCCAAGCTAGAAAACA GTCCAGTGGAAAATGTTACTGCTGCTTCGACTCTGCTCAGTCAAGCAAAAATTGATACAGGA GAGAATAAATTTCCAGGTTCAGCTCCCCAACAGCATAGTATTCTCAGTAACCAGACATCTAAA AGCAGTGATAACAGGGAGACACCACGAAATCATTCTTTGCCTAAGTGTAATTCCCATTTGGA GATAACAATTCCAAAGGACTTGAAACTAAAAGAAGCAGAGAAAAACTGATGAAAAAACAGTTGAT TATAGATGCAGGACAAAAAAGATTTGGAGCAGTTTCTTGTAATGTTTGTGGAATGCTGTATAC **AGCTTCAAATCCAGAAGATGAAACACAGCATCTGCTTTTCCACAACCAGTTTATAAGTGCTGT** TAAATATGTGGGCTGGAAGAAAGAAAGAATTCTGGCTGAATACCCTGATGGCAGGATAATAA TGGTTCTTCCTGAAGACCCAAAGTATGCCCTGAAAAAGGTTGACGAGATTAGAGAGATGGTT GACAATGATTTAGGTTTTCAACAGGCTCCACTAATGTGCTATTCCAGAACTAAAACACTTCTC TTCATTTCCAATGACAAAAAAGTAGTTGGCTGCCTAATTGCGGAACATATCCAATGGGGCTA CAGAGTTATAGAAGAGAAACTTCCAGTTATCAGGTCAGAAGAAGAAAAGTCAGATTTGAAA GGCAAAAAGCCTGGTGCTCCACCATTACCAGAGCCTGCAATCTGCGGGATCAGTCGAAT ATGGGTATTCAGCATGATGCGTCGGAAGAAAATTGCTTCTCGCATGATTGAATGCCTAAGGA GTAACTTTATATATGGCTCATATTTGAGCAAAGAAGAAATTGCTTTCTCAGATCCCACTCCTG **ATGGAAAGCTGTTTGCAACACAGTACTGTGGCACTGGTCAATTTCTGGTATATAATTTTATTA ATGGACAGAATAGCACGTAAAACAAATTCTTGCCTACACCACTAGAAGACATCTATTGAAGA** GAATGGATTGGTTGCTGACTTTAACCAGGAACTAGGGCCATTTTTATTACAATGAACTCAGGA CTGGCAACAACCATATGGTTGTTCCATTTTCATAAAATTGGAAACAATGCAGTAATAGCTTAT TATAGTTATTTAGACATGTTTACATGCAGCAGATAATTGTTCATAGTGGACTGAAAACTAATG CAAGGACTATGGTCTCAGTGATAAGTATATTTTGAAGTTCTTAATATGGAAATATACCAGTGT AGCTTGGTACTGTTTTTTTTATATTGATCTGCTGATACCAGTGATAGGCTTAAAGATTGTATT

NNATGGGGCAACGTGGAAGAAATGGCCAGAATTTNAACTGGTCATCAATGCGANCA CTTTTTACAAAAGNCCAGAGCCAGAATAACCCTTTCATTAAATCTTCCCACCAACATCCTGAT TTCATGGTCCGTAGGAGGATGACCACTAGCCCACCACCTTCCACTGTTTCTACAGTCCTGGC GGATCTTGTGGGTCTCGTTGTAGTAGCAGTAGCGAATGTTTGTGGCTGCTATGAAGAGTTCA AAGGGGTCGTCCTGCTTTATGTTCAGTGTTCCATTCTTATTTTCTTCTGCAGCTGTCGCATT CTTTTCTTCCGGTGACTGCTAAACCCCAGCTCTTTCTTATAACACCACAGCACTGAAGGCCG AGCCTTCACAGTTGCTTTGGATAACATGTGATGAAGTATTACCACCTGATCTTTTCCTCGATC CCCAACTACAACAAGAGAGATCTTTGCCGCTCAGCTACTCCATTCTCAATGAGAATCCGGA TTCGGTTATCCACCTTTTTCCGATGCATGGTGAAAAATTATTACTGCGCCCCGAGCCCGGGG GATCCCAGCCAGTGGAGAAGGGGAAGCACGTGGGAGCACGGAACACTCCGAAAGAGAAG GCACAGCTGACTGCCCTAGCGTATGCCTGGTGTCCGGGTCACGTAGTAAGCCTGGCTCCG CGGCACGCGTCCCTCTCAGGAACTGGTAGACAGCACGTGCGCAAGCGCATTAAAGTCGCA GAGATGGCGAGCGAGAAGGGACCTTCCTCAAGGCTGTCGCTGAGTAATGACGTAAGCCACC AGAAGCGGAGCTGAGGCCTAGATGTCCACTGCGGTTGCGCATTTTAGTCCCACTGCTCGCG GTAGCTGGGTGTGGCTGCGGTTTGCCTCTTCACTCTTCATATCCCAGCTAAAGTACCTCGG CTAAGAAGGGCAAAATAGATGTCCGCACCCCAGGGCCTGCCCACGTAGGTCCAGGGTTTTC AGCGTCAGCCTGGTTACGCGAAACGCGACGGATCCAACGATTTGTGTTCAATTTAACCGATC CCCGTTAAGTTGAGGAAACTCGGCCAACAGACCTATTTTATTGGTTTCGCTTGGCCCTCCAC CCCCACAGTACTGATCTTACAGATGGGAATCCTGTAATCTACCCATGACTGCNNNNNN >246

GGGAAGACTCGGAAATTGGCACGTGTTGCTTGAAGGAACTGGTTCTCTTTTGCGGGGGCC GCCGCTTGTTAAAGCTTAATTTTGCGGTGGGAATTAAGGCGAAGTTTACTCCCATTTTTTGTG GGAGTATATACAACTTATGGCCACGCCTGTGTCACATTCCCGTCTGGAGCTGGGACCATTG GTTAGTACCATCCTTCTTCGATACAAAACAGGGGGGGCGCAAAATCCTAGGGGCGGAAAAT TACGCATTGTAAGAGGCGAAGAGTATAAAGAAGCACGGTAACCGGACAGACGGTCTTAGCA TGTTACTGAGCGCAAGCGCATAGTTCATGACCTAGTTGCCGTCTAGCACACAGTCGCACNN >247

NNNNCGCGGCCGCGTNCGACAGAAGACGACAGAAGGGTACGGCTGCGAGAAGAC GACAGAAGGGTACGCTCGAGGTAGGCGGCGAGGCGCGGCGGCGGAAGATGGCGGCG ACTACTATAGCAGCTCATCTAGTCAAGCAAGCCAACAAAGAATATTTGCTGGGGAGTACTGC AGAAGAAAAGCAATCGTTCAGCAGTGGTTAGAATACAGGGTCACTCAAGTAGATGGGCACT CCAGTAAAAATGACATCCACACACTGTTGAAGGATCTTAATTCATATCTTGAAGATAAAGTCT **ACCTTACAGGGTATAACTTTACATTAGCAGATATACTATTGTACTATGGACTTCATCGCTTTAT** AGTTGACCTGACAGTTCAAGAAAAGGAGAAATATCTTAATGTGTCTCGCTGGTTTTGTCACAT TCAGCATTATCCAGGCATCAGGCAACATCTGTCTAGTGTTGTCTTCATCAAGAACAGACTATA TACTAATTCCCACTAGAAGCTGTCCATGCCATACAGAAGATCTATTAAAAATGTTTTAAATGG TTGATAGAATTTTTGAAGTGTAAACTTGTGTCTGAATGTTTTATTTGTTCTTTAGCTGAAGTTTT GCAATTTTTATGTCAAAATTCAATTGCTATTAAACAAGTTGAGATCCAGTTATAAATTAACCTT AAGGGGGGGGGGGTAAAAAATTTCCCCGGGGGGGCCAAAGTTAATGACGTGACACCCG AAAGACCCCCTTCTTGTGGGGTGAATTGTGGACACACCTAGAGAGAATTTAAGCCAGGAAAT TAACTTAGGGTGTATGGTGGTAACGCGATATTGTGGAAAATTTGTCAGATTGTTGAAATANN >248

668

PCT/US00/33312

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TCTCTCTCTTTCCCTCAGTGATGTGAAAATAATTGTGTTTTGCTGAACTTGTTATCTTC ATTCAATTTCCTCTTGACTAAAACATCTCTGGTGCCAACGTAATACTTCTGAACCACATCACT GTGACTCAAGGAAAGTCACTGACAGCATAAGAGAAGTTTGCTAAAATATTTGTATGTGGGGG AAGCTCTGGAGTGTGCCTAGGAGGGGGGCTGGCTTTATGTCCCAGGATGACTCTTTAT GGGTGGGATTACATTGCACCCTCTGAGGGTGCAGGCTAGACCGTCTCCTGAGAGGAAGTTA GGATCAGAAAGAAGCAAGCAGCAGCCTCTGCAGGGCTGACAGGATTTAAAGGAGAGAA TGTTCTTATTTGGAAGCAGCTGTGGCTTGTCACCAATGTTCAAGGAGTGTTACTGTTCCGCC CTCTCTTTGTCAGAAGGGACACAGGTGGTAATTTGGAGATGGGGCCAGAGCTTCTGGCTTTT GGATTTGGTGTCACTTGTGTTGGATAGAGCAGTGGCATGGCTTTGACCTAGTATGAACT GGTGTCTGCCCAGAGAGCAGCATGTAGCAGGGGGGGAATGCTCAGGTTTGTGCCTGGCTCT GTGGAGCTGTACAACCCTTCTCACCCTGTGGGTTGGAGCCGAGTCAGGCCACTATGGGGAA GCAGTTGCCCCACAAAATGTGGTTTGCTGACCTATTTCTAAACTGTTGAATATGCTGCACCAT TGCTGAAATGAAAGATGACTCTGGGGGAGCAGAGCTTGGCCTTGTGCCCAGCTGGCAGCCC CCTCTGCCAGCCTTTCTGCTGCTTTTGCTGCTGTAACAGCAATAGTGGAGAAAAATGTAAAAT TTGGTCTTCCAGCTTAATGCAGTGTGAACAATAGATGGTTAGGAAAACAAAACTGCTTAGAA TAGGTTTCTATTCAATATTTGACTTTTTTTTTTTTATT<u>AAGAAAATGAAATCCCTTACACCAGAT</u> **ATCAGTTAATTCAAACAGAAAACCCTTTGGGTATCANNNNN** >251

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CTGTGAGGAAGGATGGGCCTTGCTGAAGTGTGGAGGAAAAAATTATGAACGGGCCAAGGCC TGCTTTGAAAAGGTGCTTGAAGTGGACCCTGAAAACCCTGAATCCAGCGCTGGGTATGCGA TCTCTGCCTATCGCCTGGATGGCTTTAAATTAGCCACAAAAAATCACAAGCCATTTTCTTTGC TTCCCCTAAGGCAGGCTGTCCGCTTAAATCCAGACAATGGATATATTAAGGTTCTCCTTGCC CTGAAGCTTCAGGATGAAGGACAGGAAGCTGAAGGAAAAGTACATTGAAGAAGCTCTAG CCAACATGTCCTCACAGACCTATGTCTTTCGATATGCAGCCAAGTTTTACCGAAGAAAAGGC TCTGTGGATAAAGCTCTTGAGTTATTAAAAAAGGCCTTGCAGGAAACACCCACTTCTGTCTTA CTGCATCACCAGATAGGGCTTTGCTACAAGGCACAAATGATCCAAATCAAGGAGGCTACAAA AGGGCAGCCTAGAGGGCAAAACAGAGAAAAGCTAGACAAAATGATAAGATCAGCCATATTTC ATTTTGAATCTGCAGTGGAAAAAAAGCCCACATTTGAGGTGGCTCATCTAGACCTGGCAAGA ATGTATAGAAGCAGGCAATCACAGAAAAGCTGAAGAAATTTTCAAAAATTGTTATGCATG AAACCAGTGGTAGAAGAACAATGCAAGACATACATTTCCACTATGGTCGGTTTCAGGAATTT CAAAAGAAATCTGACGTCAATGCAATTATCCATTATTTAAAAGCTATAAAAAATAGAACAGGCA TCATTAACAAGGGATAAAAGTATCAATTCTTTGAAGAAATTGGTTTTAAGGAAACTTCGGAGA GAATGAAGCCCTGGAGTACTATGAGCGGGCCCTGAGACTGGCTGCTGACTTTGAGAACTCT GTGAGACAAGGTCCTTAGGCACCCAGATATCAGCCACTTTCACATTTCATTTTATGCT **AACATITACTAATCATCTFFTCTGCTTACTGTTTTCAGAAACATTATAATTCACTGTAATGATGT** AATTCTTGAATAATAAATCTGACAAAATATTAGTTGTGTTCAACAATTAGTGAAACAGAATGTG TTAACTTTGTAGGAAATAAAACATTGGACTTACACGAAAtgtttaattcattcatttattgtgaaataaaaataaaa teettageteeteeaccaactgaacagaccetettggccaaggagaccccagaaacettaaaaactaagttteccaaccatgacaagat gagagatcattcacacctcattatattccctcccttgctaactgccattggactttttccactgagttaaacagaaaccca >255

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CGCGGTGGCGGCCGAGGTACTCTGACTTGCAGGGCCACAAGACCGGCCTTGCGAG CGTCGTTGGCTGATGGGAGTAGAAGCCACAGAGAGTCTTCCTCTTGGAGGTACAGTCAATT CTGAGGTTTGGGCGTCATAGACTAAACCCAGAAAACAGAACATTGGGAAGTCTTCGGAATAT TCTCTATCTTCACCAACGAGTAAGACGTTTTGGAATAATGGGACTCTACAAAGGCCTTGA AGCCAAACTGCTGCAGACAGTCCTCACTGCTCCTCATGTTCCTTGTTTATGAGAAACTGA CAGCTGCCACCTTCACAGTTATGGGGCTGAAGCGTGCACACCAACACTGAGACGCCTTCCC ATGAAAAATTCCGAAGATGCTCAAGAGGGAGGTTTCCTCCTGAGTGAAGAGAAGTGATTCTC CCTTGACTCTGGCTCCTGCCACCACAATGTTACCCTCATTGGCTTGAAAAGCATCCAAGGG TTGGGGTGGCAGTTGGACTAATGTGAAAAAAACATTGCTGAAAAACCTAAAAATGACAGTTGT GAGTGTTTATTGGTTTTCTTAAGAGAAATGGACTATTTGCTCTCATGTGTAATGTTTTCTATTT AAATCTTTCTTAAATATACCAGCTGTTCTCTTTCCCTGAACTCTCCCCCAGGTTCTAGACAATT TAATAACATGTTATTCTTCTCAAATACTTTTGTCATGTCTCAAGTGTCGGTGTTTTTACTGCAC TGCCCAATGGATTCTTTAAACATTGGCAGGTACATTTCACAGGGGAGAAAACTCCGATAGCT TGGAAACACCCGTATCACAACTGCGAGTGCGCTCACTCAACCGGTGAGGCAAATGGGCAAC **AAAAAAAAAGTGGCGGGGCGCACATAN** >258

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Table 4

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CAGCGGAATTGTATCCGTACCTCGGCCGCGACCACGCTAAAATAAACAGCAGGACAGAAAT
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>268

CCCACGCGTCCGGTGAGACTTGCCTGCTCCTCTGGCCCCTGGTCCTGTCCTCTTCT CCAGCATGGTGTCTGAAGCTCCCTGGAGGCTCCAGCTTGGCAGCGTTGACAGTGACACT GATGGTGCTGAGCTCCCGACTGGCTTTCGCTGGGGACACCCGACCACGTTTCTTGGAGCTG CCATAACCAGGAGGAGTTCGTGCGCTTCGACAGCGACGTGGGGGAGTACCGGGCGGTGAC GGAGCTGGGGCGCCTGTCGCCGAGTCCTGGAACAGCCAGAAGGACCTCCTGGAGCAGAA GCGGGGCCAGGTGGACAATTACTGCAGACACAACTACGGGGTTGTGGAGAGCTTCACAGT GCAGCGGCGAGTCCATCCTCaggtGACTGTATCCTGCAAAGACCCAGCCCCTGCAggcACC ACAACctgctggtcTGTTCTGTGAGTGGTTTCTATCCAGGCAGCATTGAAGTCAGGTGGTTCCGG **AATGGCCAGGAAGAGAGACTGGGGTGGTGTCCACAGGCCTGATCCACAATGGAGACTGG** ACCTTCCAGACCCTGGTGATGCTGGAAACAGTTCCTCGGAGTGGAGAGGTTTACACCTGCC AAGTGGAGCACCCAAGCGTGACAAGCCCTCTCACAGTGGAATGGAGAGCACGGTCTGAATC TGCACAGAGCAAGATGCTGAGTGGAGTCGGGGGCTTTGTGCTGGGCCTGCTCTTCCTTGGG GCCGGGCTGTTCATCTACTTCAGGAATCAGAAAGGACACTCTGGACTTCAGCCAAGAGGATT CCTGAGCTGAAGTGCAGATGACACATTCAAAGAAGAACTTTCTGCCCCAGCTTTGCAGGATG AAAAGCTTTCCCTCCTGGCTGTTATTCTTCCACAAGAGAGGGCTTTCTCAGGACCTGGTTGC TACTGGTTCAGCAACTGCAGAAAATGTCCTCCCTTGTGGCTTCCTCAGCTCCTGCCCTTGGC CTGAAGTCCCAGCATTGGTGGCAGCGCCTCATCTTCAACTTTTGTGCTCCCCTTTGCCTAAA CCCTATGGCCTCCTGTGCATCTGTACCTGCCCgggcggcGCTCGAGGTTGGTTCAAGCCTTC **GTTGACAGAGTTGCCCACGGTAACAACCTCTTCCCGAACCTTATGCCTCTGCTGGTCTTTCA** GTGCCTCCACTAtCCCGCGTACCtCGGCCGCCACCgcgtggaGCTCCAa

>270

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>272

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>275 >276

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>279

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Table 4

NNNNNGGCGCCGAGGTACGCGGGGGGAGACATGTGGAGTCCCAGCAGAGGCC
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TCAGATAGCACCCAAGAATTTGGGGAAAAAACTGGTGCTCACAGCN
>282
>283

CAAAAACTGGAGACTTTTAATGTATTTCTTTAATTTCGGACGCGTCCGATTTTGCAGT TGTTGAAATTGTCCCCGCAGTTTTCAATCATGTCTGAACCAATCAGAGTCCTTGTGACTGGA GCAGCTGGTCAAATTGCATATTCACTGCTGTACAGTATTGGAAATGGATCTGTCTTTGGTAAA GATCAGCCTATAATTCTTGTGCTGTTGGATATCACCCCCATGATGGGTGTCCTGGACGGTGT CCTAATGGAACTGCAAGACTGTGCCCTTCCCCTCCTGAAAGATGTCATCGCAACAGATAAAG AAGACGTTGCCTTCAAAGACCTGGATGTGGCCATTCTTGTGGGCTCCATGCCAAGAAGGGA AGGCATGGAGAGAAAAGATTTACTGAAAGCAAATGTGAAAATCTTCAAATCCCAGGGTGCAG CCTTAGATAAATACGCCAAGAAGTCAGTTAAGGTTATTGTTGTGGGTAATCCAGCCAATACCA ACTGCCTGACTGCTTCCAAGTCAGCTCCATCCCCCAAGGAGAACTTCAGTTGCTTGACT CGTTTGGATCACCACCGAGCTAAAGCTCAAATTGCTCTTAAACTTGGTGTGACTGCTAATGAT GTAAAGAATGTCATTATCTGGGGAAACCATTCCTCGACTCAGTATCCAGATGTCAACCATGC CAAGGTGAAATTGCAAGGAAAGGAAGTTGGTGTTTATGAAGCTCTGAAAGATGACAGCTGGC TCAAGGGAGAATTTGTCACGACTGTGCAGCAGCGTGGCGCTGCTGTCATCAAGGCTCGAAA ACTATCCAGTGCCATGTCTGCCAAAAGCCATCTGTGACCACGTCAGGGACATCTGGTTTG GAACCCCAGAGGGAGAGTTTGTGTCCATGGGTGTTATCTCTGATGGCAACTCCTATGGTGTT CCTGATGATCTGCTCTACTCATTCCCTGTTGTAATCAAGAATAAGACCTGGAAGTTTGTTGAA GGTCTCCCTATTAATGATTTCTCACGTGAGAAGATGGATCTTACTGCAAAGGAACTGACAGA AGAAAAAGAAAGTGCTTTTGAATTTCTTTCCTCTGCCTGACTAGACAATGATGTTACTAAATG CTTCAAAGCTGAAGAATCTAAATGTCGTCTTTGACTCAAGTACCAAATAATAATAATGCTATAC TTAAATTACTTGTGAAAAACAACACATTTTAAAGATTACGTGCTTCTTGGTACAGGTTTGTGAA aaaaaaagggggggggggttaaatattcccggggggggacgacaaataatgaaagacaacacacgtcttttgtagaaaaa gcagccaccataatggagggtgtttataaaaggaaggccggggaggttttaaaaagctgtgcgagagaaaaattgtcgtgagtttt tgaagaagacacatcctttgtgtgggtctagacgggaaccacaccgaaaagataaggacgggaaaatacaatgggtatagtggaa caggettttgtggcaaatgtcgtgttatata >284

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GGGACATTGAGGCAACAAAGGTTGCGTTTTAGGAACACCACAGGCTTTTCGGAAATATGGC GCTGTCCAGAGGGTTAAATTGTGCGATCAGCCAAAGGGGTGTGGCTTAATGTGAACCCACT TTTGGCCNNNNNNNN >285

CGACCCACGCGTCCGGCGACGCCAAACATGGCGTGTTCCTAGAAGCCGCTTTCGG CATCAGTAGGCGGCGTGGGGTCTGGCAGCGTGGGGAGAGGGACCAACCGACGCCAC CATGGATCTCAATAGTGCCAGCACTGTTGTTCTTCAGGTGTTAACACAGGCCACCAGTCAGG ATACTGCTGTGTTAAAACCAGCTGAGGAGCAGTTGAAGCAGTGGGAGACACAGCCAGGTTT CTATTCAGTGTTGCTGAATATTTTCACCAACCACACTTTGGATATAAATGTAAGGTGGCTTGC TGTACTGTATTTTAAACATGGAATTGATCGCTACTGGAGACGTGTAGCACCTCATGCTCTC AGAGGAGGAGAAAACTACTCTGCGTGCAGGGCTCATCACCAACTTCAATGAACCAATAAACC AGATTGCAACTCAGATTGCAGTGCTCATTGCAAAAGTTGCTAGATTGGATTGTCCCAGACAG TGGCCTGAACTAATTCCCACTCTTATAGAGTCTGTTAAAGTCCAGGATGATCTTCGACAGCA CAGAGCATTACTTACCTTCTATCATGTTACCAAGACACTGGCATCTAAACGACTTGCTGCTGA TAGAAAACTATTTTATGATTTAGCTTCTGGAATTTATAATTTTGCCTGCTCTCTGTGGAATCAC CACACAGACACATTCCTGCAAGAAGTTTCTTCTGGCAATGAAGCTGCAATTTTGAGTTCACTA GAACGAACACTGCTATCATTGAAAGTGCTGCGTAAGTTAACTGTTAATGGATTTGTGGAACCT CATAAGAATATGGAGGTGATGGGTTTTTTACATGGAATATTTGAACGTCTAAAACAGTTTCTG GAATGCAGTAGAAGTATAGGTACAGATAATGTGTGTAGAGATAGACTGGAAAAGACCATCAT TCTTTTACTAAAGTGCTTTTGGACTTCTTGGATCAGCATCCTTTTTCATTTACTCCTCTAATT CAGAGATCACTGGAATTTTCTGTAAGCTATGTTTTTACAGAAGTTGGTGAAGGCGTTACATTT GAACGATTCATTGTCCAATGTATGAATCTTATTAAGATGATTGTCAAAAAATTATGCTTATAAGC CATCCAAAAATTTTGAAGATAGCAGCCCTGAAACTCTTGAAGCCCATAAGATTAAGATGGCAT TCTTCACATATCCTACTTTGACAGAGATATGTAGAAGATTAGTCTCTCATTATTTCCTATTAAC TGAAGAAGAACTGACAATGTGGGAAGAAGACCCAGAAGGCTTTACAGTGGAAGAAACAGGA GAATATAATCAGACTCTTACTCCTGTACTTCTAGAAATGATGCAAACACTTCAAGGACCCACA AATGTGGAAGATATGAATGCACTGTTAATCAAAGATGCTGTGTATAATGCTGTTGGATTAGCT GCTTATGAGCTCTTTGACAGTGTTGATTTTGATCAGTGGTTTAAAAACCAGCTTCTTCCAGAA TTACAAGTCATTCACAATAGGTATAAGCCATTGCGACGCAGGGTGATTTGGCTCATCGGTCA GTGGATITCTGTGAAATTCAAGTCTGACTTAAGACCCATGCTTTATGAAGCAATCTGTAACTT GCTTCAAGATCAAGATTTAGTGGTCCGTATTGAAACAGCTACAACTTTGAAGTTAACTGTTGA TGATTTTGAATTTAGAACAGATCAGTTTCTACCGTATTTGGAAACCATGTTCACACTACTTTTT CAGTTACTGCAGCAAGTTACAGAATGTGACACAAAGATGCATGTTTTGCATGTCCTTTCTTGT GTGATCGAAAGAGTCAACATGCAGATACGACCATATGTGGGATGTTTGGTACAATATTTGCC CCTCCTTTGGAAGCAGAGTGAAGAACACAATATGTTGAGATGTGCTATTTTGACAACACTTAT TCATCTTGTTCAGGGATTAGGAGCAGACAGCAAGAACCTGTACCCTTTCCTGCTCCCAGTTA TTCAACTGAGTACAGATGTTTCACAGCCTCCACATGTTTATCTTCTGGAAGATGGTTTAGAAT TATGGTTAGTAACTTTGGAAAACAGTCCATGTATTACACCAGAGTTGCTTCGTATATTTCAGA ATATGTCACCACTTCTTGAACTAAGTTCAGAAAATCTTAGAACTTGCTTTAAGATCATCAATGG TTATATCTTTTTATCATCAACAGAATTTTTACAGACATACGCAGTAGGTCTATGCCAGTCCTTT TGTGAACTTTTAAAGGAAATTACTACAGAAGGTCAAGTTCAGGTGCTCAAGGTTGTGGAAAAT GCCCTTAAAGTGAACCCAATACTAGGTCCACAAATGTTTCAACCGATTTTACCCTATGTTTTC **AAGGGTATTATAGAAGGGGAGAGGTATCCTGTAGTGATGTCCACGTATCTTGGAGTTATGGG** TCGAGTTCTACTACAAAACACTAGTTTTTTTTCTTCACTACTTAATGAGATGGCCCATAAATTT AATCAGGAGATGGACCAGCTTTTGGGAAATATGATTGAAATGTGGGTTGATCGAATGGACAA CATTACCCAGCCTGAAAGAAGAAAACTTTCAGCTTTGGCTTTGCTCTCTTCTGCCATCTGA TAATAGTGTTATCCAAGATAAATTCTGTGGGATTATAAACATTTCAGTAGAAGGCCTGCATGA TGTCATGACGGAAGATCCTGAAACAGGAACTTATAAAGACTGTATGTTGATGTCTCATCTTGA GGAACCAAAAGTAACAGAAGATGAAGAACCACCACAGAACAAGATAAGAGGAAAAAAGATG CTGGCCTGAAGGACCCTGTTCATACAGTGTCACTGCAGCAGTTCATCTACGAGAAGCTCAA GGCACAGCAGGAGATGCTAGGAGAACAAGGTTTCCAGTCCCTCATGGAAACAGTGGATACG GAGATTGTCACCCAGCTACAGGAGTTTTTGCAAGGATTCTAAGAGCACATGACATGTGGCTG CCTCCCCTTTCAGAAACAAGCTGAGTAACCCAGCCTGCCGTTTGTATGTGAGAGCCTGCTGA GATGAAGAAATCACTTCATGAAAATAAGCAAAGACCACACATTTTTTACTACAAAATGTAAGG

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>288 >289

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Table 4

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Table 4

AAATCTCAGCATAAGCCAGGCATGGTGGTACACAGCTGTATTCTCAGCTATTTAAGAGGATT GCTTGAGTCCAGGAAATCAAGACCAGCCTGGGTAACATAGTGACACCCAGTCTCCANNNN >295

NCGCCTGTGGGAGGACGTCCGGGTGGGCGGAACTCCTAGCGGACACCTCGTGGA GTCCGCCGGAAGAGCAACCGAGATGAAGGTGAAGATGCTGAGCCGGAATCCGGACAATT ATGTCCGCGAAACCAAGTTGGACTTACAGAGAGTTCCAAGAAACTATGATCCTGCTTTACAT CCTTTTGAGGTCCCACGAGAATATATAAGAGCTTTAAATGCTACCAAACTGGAACGAGTATTT GCAAAACCATTCCTTGCTTCGCTGGATGGTCACCGTGATGGAGTCAATTGCTTGGCAAAGCA TCCAGAGAAGCTGGCTACTGTCCTTTCTGGGGCGTGTGATGGAGAGGTTAGAATTTGGAAT CTAACTCAGCGGAATTGTATCCGTACAATACAAGCACATGAAGGCTTTGTACGAGGAATATG TACTCGCTTTTGTGGGACTTCTTTTTTCACTGTTGGTGATGACAAAACTGTGAAGCAGTGGAA GTGTATACTGGGATTGATCATCACTGGAAAGAAGCTGTTTTTGCCACATGTGGACAGCAAGT AGACATTTGGGATGAACAAAGAACTAATCCTATATGTTCAATGACCTGGGGATTTGACAGTAT AAGTAGTGTTAAATTTAACCCAATTGAGACATTTCTCTTGGGAAGTTGTGCATCTGACAGGAA TATAGTACTGTACGATATGAGGCAAGCTACTCCTTTGAAAAAGGTTATCTTAGATATGAGAAC AAATACAATCTGTTGGAACCCTATGGAAGCTTTCATTTTTACAGCAGCAAATGAAGATTATAA CTTATATACTTTTGATATGCGTGCACTGGACACTCCTGTAATGGTCCATATGGATCATGTATC TGCAGTGCTTGATGTGGATTACTCTCCCACTGGGAAGGAGTTTGTGTCTGCTAGTTTCGATA AATCTATTCGAATCTTTCCTGTAGACAAAAGTCGAAGCAGGGAGGTATATCATACAAAGAGAA TGCAACATGTTATCTGTGTAAAATGGACTTCTGACAGCAAGTATATTATGTGTGGATCTGATG AAATGAACATTCGCCTGTGGAAAGCTAATGCTTCTGAAAAATTGGGTGTGCTTACATCACGA GAAAAAGCAGCCAAGGATTATAACCAGAAATTGAAGGAGAAATTTCAGCATTATCCTCATATA CATCATGAAAGAAGCTCGTCGACGAAAGGAAGTGAATCGTATTAAACACAGCAAGCCTGGAT CTGTGCCACTTGTGTCAGAGAAGAAGAACACGTAGTGGCAGTTGTAAAATAATTGGTATTC CTAACAATCCTGATGTATAATTATTTGTTACTTTTGATTTGAGAACTCTACAAATAAAAGTGCT GGGACTAGATTAATTGCAAACATTTTAGTTATATGTGTAGAGCTTTATTGTTACCCTTTTAGC TACCCTGAAAAATGATCCTTAAAGGTGGCCTAGTTGGTAAGACTGTTTTATCCTTAATCTGCA TTCTTCTTTCATTGTAGAATACAGTATTTGCAACTCATTTTTTCTTGTTTTTATTACAGATATAC TTACTTTCTCTTTGATCTATTATTGTAGACACTATACATTCAAATTGACATTTAAGACCAAACAT CTCTTATGTTATCTTTAATATTACTTTGAATAATGATTGCAATGATGTTTCTTCCTGTGATTCCA NNN >296

>300

Table 4

AACTCTCAAGATAAAAGCATTGAAAAACATGGCAGTAGTAAAATAGAAACAATGAATAAGTCT CCTCATATCTCTAATTGCAGTGTAGCCAGTGATTATTTAGATTTGGATAAGATTACTGTGGAA GATGATGTTGGTGGTGTTCAAGGGAAAAGAAAGCAGCATCTAAAGCTGCAGCACAGCAGA GGAAGATTCTTCTGGAAGGCAGTGATGGTGATAGTGCTAATGACACTGAACCAGACTTTGCA CCTGGTGAAGATTCTGAGGATGATTCTGATTTTTGTGAGAGTGAGGATAATGACGAAGACTT AGAAAGAAGAAGAAATCTAAATCCAAATGTAATGCTTTGGTGACTTCGGTGGACTCTG CTCCAGCTGCCGTCAAATCAGAATCTCAGTCCTTGCCAAAAAAGGTTTCTCTGTCTTCAGATA CCACTAGGAAACCATTAGAAATACGCAGTCCTTCAGCTGAAAGCAAGAAACCTAAATGGGTC CCACCAGCGCATCTGGAGGTAGCAGAAGTAGCAGCAGCCCACTGGTGGTAGTGTCTGTG AAGTCTCCCAATCAGAGTCTCCGCCTTGGCTTGTCCAGATTAGCACGAGTTAAACCTTTGCA CTTTACAAGGGTGTTTATATTTGATTTGTGTTTATATTTGAGGCAGGTATTGTAATATAAAGGA ATCCATTACCATGTCCTATAAATGACCTCTAGCCATTTTATGATTATGTTCTCTGTAAAACTCT TCAAGACTTCAATGAGAAGTTTGTTTATAAGAATTATCTTCTCATACCTTTCCTTGTGAAGAGC GTATTCTGTTTTTCTATCAGTTCGACATGAAGTCCACATCACATGCTGTTCTTTTCTAGTTACA TGATGTGCCTTTCTAGCTTTGTCTAGTTTATAGCACCTTAACTTTAACTGTTCAGTTTTATCTG GCAGAGGAAAACATTCTTATTTCTTTCAGAAGACATTTCTGAAATCTTATAAGCTACTTAAGCT ACGTTGTCAGTTTTATCGCAAAGATGTTTTGTATTTTAGCCAAATCTTTTTATAGTACAAACTT AGAATTATTTTACACACTAAAATGGTTGCAGTTTTATGGCATATGTCTCCGATTTAGATGGTTA TTCTCTAGAAAATAGTATTTAAAGACATTTTATGAAATCTTCATTGTCAAAAACCTTTAATAAAAG TGGAAATATTTGAAATGCCCTTTTTCTTGATACCACTCATCCACGTGTTCCTGATTTGTCCAC ATTTCATGATAAAATGAGAGCTCTGCAGAGAATGTTAGCCTTTCTGTGTAAATGTAATCTTCA AGTAGTCACTTTTGTTAAGTTCTTTAGAAAGTAGTTGTCAAGTACTTAGTCATCCCTATTATGA TATGAGATAGTACAGTTTTCAGGAAGCTTAGATCTGAATTATTGTGAAAAAACAATGGTATGAA TATTTTATATTTACATGAGAATTAATAGTTCTGATCAATTTTATAAAAAATTTTCAATTCATGTAG GTGTTAAAATGTTATAACTCAGTTTCTGGTTATGACTATCTTTTTAGGGAACTATATTAGAATG GGTAGTGGCTTGTTAAAAAAAAAAAAAAAAAAAAAATTGGGCGCCGAAATTAAACGTGGGG GCCGAGAAAGGACGCGGAACGCATCAGGGTCACAAAGCGGCGCGGAACAGGGGGTCGT **TAGCAGCAGCCN** >298

NNNNCGCGGCCGCGTNCGACAGAAGACGACAGAAGGGTACGGCTGCGAGAAGAC GACAGAAGGGTACGGCTCGAGGTAGGCGGCGAGGCGGCGGCGGAAGATGGCGGCG ACTACTATAGCAGCTCATCTAGTCAAGCAAGCCAACAAGAATATTTGCTGGGGAGTACTGC AGAAGAAAAGCAATCGTTCAGCAGTGGTTAGAATACAGGGTCACTCAAGTAGATGGGCACT CCAGTAAAAATGACATCCACACACTGTTGAAGGATCTTAATTCATATCTTGAAGATAAAGTCT **ACCTTACAGGGTATAACTTTACATTAGCAGATATACTATTGTACTATGGACTTCATCGCTTTAT** AGTTGACCTGACAGTTCAAGAAAAGGAGAAATATCTTAATGTGTCTCGCTGGTTTTGTCACAT TCAGCATTATCCAGGCATCAGGCAACATCTGTCTAGTGTTGTCTTCATCAAGAACAGACTATA TACTAATTCCCACTAGAAGCTGTCCATGCCATACAGAAGATCTATTAAAAATGTTTTAAATGG TTGATAGAATTTTTGAAGTGTAAACTTGTGTCTGAATGTTTTATTTGTTCTTTAGCTGAAGTTTT GCAATTTTTATGTCAAAATTCAATTGCTATTAAACAAGTTGAGATCCAGTTATAAATTAACCTT AAGGGGGGGGGGTAAAAAATTTCCCCGGGGGGGGCCAAAGTTAATGACGTGACACCCG AAAGACCCCCTTCTTGTGGGGTGAATTGTGGACACACCTAGAGAGAATTTAAGCCAGGAAAT TAACTTAGGGTGTATGGTAACGCGATATTGTGGAAAATTTGTCAGATTGTTGAAATANN >299

NNACTATAGTGAATTTGGCCCTCGAGGCCAAGAATTCGGCACGAGGCTTAAATGTCT GACTTCAGAATTGCATACGCCATCTGTTTTATTGACCCAACACAGTTTTAAATATTTTCATCCC

ACGCGGGGGGGCGTAAGGTGGGGCGTGAAAGAAGTTTGCTGACGAAGATGGC CTGCAGTTTTGTGATCTGCAATGATTCTTCCCTTCGAGGTCAGCCCATTATCTTTAATCCTGA CTTTTTTGTGGAGAAACTCCGACATGAGAAACCTGAGATTTTCACTGAGTTGGTGGTCAGCA ATATCACAAGGCTCATCGATTTACCTGGAACTGAGTTGGCTCAGCTGATGGGGGAAGTGGA CCTTAAGTTGCCTGGCGGGCTGGCCCAGCATCAGGATTCTTCCGGTCTCTCATGTCTCTC AAGCGAAAGGAAAAGGAGTGATATTTGGGTCCCCACTGACGGAGGAAGGCATTGCCCAGA GGTAATAGTGTCCGACAGCAGATTTTAAGGGATGCTCTCAATAATGGAACTGACATTGACTT GGAATCAGGGGAATTTCACTCAAATGATGTTGCCACTTTGCTGAAGATGTTTCTAGGAGAGT TGCCGGAGCCTCTGCTGACACATAAACACTTCAATGCACACCTCAAAATCGCTGATTTGATG CAGTTTGATGATAAAGGAAACAAGACCAATATACCAGACAAGGACCGGCAAATTGAGGCTCT CCAGTTGCTCTTCCTCATTCTCCCTCCTCATCGTAATTTGCTGAAGTTATTGCTTGATCT CCTATACCAGACAGCAAAGAACAAGACAAGAACAAGATGTCAGCCTATAACCTTGCCCTTA TGTTTGCACCCCACGTCCTGTGGCCAAAAAATGTCACTGCAAATGACCTTCAGGAGAATATC ACAAAGTTAAACAGTGGGATGGCTTTTATGATTAAACACTCCCAGAAACTTTTTAAGGCTCCT GCTTATATTCGGGAGTGTGCGAGATTGCACTATTTGGGATCCAGAACTCAGGCATCAAAGGA TGACCTTGACCTCATAGCTTCATGTCATACTAAGTCCTTTCAGCTGGCAAAGTCTCAGAAACG GAACCGGGTAGATTCCTGCCCTCACCAGGAGGAGACCCAGCACCATACGGAAGAGGCACT GAGAGAGCTGTTTCAACACGTTCATGATATGCCAGAGTCAGCAAAGAAGAACAACTTATTA GACAGTTTAATAAGCAATCATTGACCCAGACACCAGGGCGAGAACCTTCTACTTCCCAGGTA CAAAAGAGGGCTCGTTCGCGCTCCTTCAGTGGGCTTATTAAGCGGAAGGTCCTGGGAAATC AGATGATGTCAGAAAAGAAAAGAAGAACCCTACTCCAGAATCTGTGGCCATTGGTGAATTG AAGGGAACCAGCAAAGAAAATAGGAACTTATTATTTTCTGGCTCTCCAGCTGTCACGATGAC ACCAACAAGATTGAAGTGGTCTGAAGGGAAGAAGAGGGGAAAAAAGGATTTCTCTGAAGG **ATCCAGAGTTGTCTCCTATGGTCCATGCAGAATTTTCTGTTTAGTGGGCAGGTGTTATTCCTG** CCCACAGCAAAGCTTGGACTTGCAGCTTGCTGCATTTTGAATTGTCAAAGCCAACTAA TACCGTGACCCGACTGATACCTCTAACCCCACTCACTGGATGATGTTTGCAAGCTGTGCCTT CACTTTTGAAAAAAATATGAAATGTGTGCTCAACTGCCAGTAATTTTTTAAAAAGCACTGTCC CAGTGGATTGATGTTTTTAATGGATATTTTGGGTTTTTCTCTGTTTTGATAGTATTGGGTA AGATATCTTTCCCTCTTTTTCACTTTGAGCTTTGGGAAAACTCTTTATCTTATGAGGCTGTATT CCTCAATACCTAATTTGTGTCCAAAGAATTTATAGCTCTTCTGGACATTTTTTATTATTATTTCTTG GGTGTGACATCAGAGTATTTGACCTGCAGTATTGAAAAAGGAGAATTCAGAATGATACAGTA TCTCTCTCTCTCCCCTTCCTCAGTGATGTGAAAATAATTGTGTTTTGCTGAACTTGTTATCTTC **ATTCAATTTCCTCTTGACTAAAACATCTCTGGTGCCAACGTAATACTTCTGAACCACATCACT** GTGACTCAAGGAAAGTCACTGACAGCATAAGAGAAGTTTGCTAAAATATTTGTATGTGGGGG **AAGCTCTGGAGTGTGCCTAGGAGGGGGCTGGCTTTATGTCCCAGGATGACTCTTTAT** GGGTGGGATTACATTGCACCCTCTGAGGGTGCAGGCTAGACCGTCTCCTGAGAGGAAGTTA GGATCAGAAGAAGAAGCAAGCAGCCCTCTGCAGGGCTGACAGGATTTAAAGGAGAAA TGTTCTTATTTGGAAGCAGCTGTGGCTTGTCACCAATGTTCAAGGAGTGTTACTGTTCCGCC CTCTCTTTGTCAGAAGGGACACAGGTGGTAATTTGGAGATGGGGCCAGAGCTTCTGGCTTTT GGATTTGGTGTTCACTTGTTTGGATAGAGCAGTGGCATGGCTTTGACCTAGTATGAACT GGTGTCTGCCCAGAGAGCAGCATGTAGCAGGGGGGAATGCTCAGGTTTGTGCCTGGCTCT GTGGAGCTGTACAACCCTTCTCACCCTGTGGGTTGGAGCCGAGTCAGGCCACTATGGGGAA GCAGTTGCCCCACAAAATGTGGTTTGCTGACCTATTTCTAAACTGTTGAATATGCTGCACCAT

>302

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>304

>305

CGACCCACGCGTCCGCGCGAATCCGTCGCGGAACCTGTCTTCTGTCTTTACCCAGA GCTACCATGAGCAAGCGGAACCAGGTATCGTACGTGCGGCCAGCCGAGCCGGCGTTTCTG GCCCGCTTCAAGGAACGGGTCGGCTACAGGGAGGGACCCACCGTAGAGACTAAGAGAATT CAGCCTCAGCCCCCAGATGAAGATGGGGATCACAGTGACAAAGAAGATGAACAGCCTCAAG TGGTGGTTTTAAAAAAGGGAGACCTGTCAGTTGAAGAAGTCATGAAAATTAAAGCAGAAATA AAGGCTGCCAAAGCAGATGAAGAACCAACTCCAGCCGATGGAAGAATCATATATCGAAAACC AGTCAAGCATCCCTCAGATGAAAAATATTCAGGTTTAACAGCAAGCTCAAAAAAAGAAGAAGC GTAGCCTCCTTTCTTTTGACAACGAAGATGAAAATGAGTAAGTGTAAATATTTTGAATTTAGTC TACTTTGAAAGTATATGGAGTGTTCATTAAAATCACATTTTTTCCTATTATAAAGATACTACAA CCCCTCTGACTTAAAATGCCAACTCTATAGAAATTAGCTAGTATTAACATTTTGTTATTTCCCT TGTGTGGTTGTATATATGTAAATTATTTTTAAGCAAAATACATTTTTTGTGTGTAAACAAA ATTTTATAAATACAACTGTATTGCAAATGTTCTTTGTCCTGCTTCTCACTTGACATTGCATTAT GAGTATTCTTCCAGGTCAGTAAATTTCAAAAACCTGACATTAATAGCTACAGATAATTTCATAA CCTTGTTAAAAATACCTCCCCAACTCCTGCTAAGGGTGGCCATGAGACTCAGCTCTGGCAAG TTAAGAAATACAGGTGGAATTCTGCTTGATAAAGCTGCTGGGTTTTTTGTTACAAAAGGACAG **ACTTGGCAAACATGAGCCTTTGCTCTTATCTTTTCATCCTACTTGGAGTGCAGAGATAAAACC** TGAGTACCTGCCGGGCGACCGCCACCGCGTGGAGCTCCAA >306

NNGGAGCTCCCCGCGGTGGCGCTCGAGTACGCGGGGAGGCAGCGGAAAGCTCA GCCCATGTGAGGTGCCTCCTGCCAATCACAGACTACCCTTCCCTGGTCCTGGAGGTTCAAA GAATTGCAGGAGGGTAGAAAAGCACCTGGGTCGGGTGCAGACTGCGGAGCGGGCCCTACC GTGTGCGCAGAAGAGGGGGCGCTTGCCTTCAGCTTGTGGGAAATCCCGAAGATGGCCAAA GACAACTCAACTGTTCGTTGCTTCCAGGGCCTGCTGATTTTTGGAAATGTGATTATTGGTTGT **ACTGCTTGAAGCCACCGACAACGATGACATCTATGGGGCTGCCTGGATCGGCATATTTGTG** GGCATCTGCCTCTTCTGCCTGTTCTAGGCATTGTAGGCATCATGAAGTCCAGCAGGAA **AATTCTTCTGGCGTATTTCATTCTGATGTTTATAGTATATGCCTTTGAAGTGGCATCTTGTATC ACAGCAGCAACACGAGACTTTTTCACACCCAACCTCTTCCTGAAGCAGATGCTAGAGGA** CTTTTACGGACTTGGCTTGTTAGAAGGCTGAAAGATGATGGCAGGAATGAAAATCCAGCTTG TATGCATGCTACTCCTGGCTTTCAGCTCCTGGAGTCTGTGCTCAGATTCAGAAGAGGAAATG AAAGCATTAGAAGCAGATTTCTTGACCAATATGCATACATCAAAGATTAGTAAAGCACATGTT CCCTCTTGGAAGATGACTCTGCTAAATGTTTGCAGTCTTGTAAATAATTTGAACAGCCCAGCT GAGGAAACAGGAGAAGTTCATGAAGAGGGAGCTTGTTGCAAGAAGGAAACTTCCTACTGCTTT AGATGCTTTAGCTTGGAAGCAATGTTGACAATATACCAGCTCCACAAAATCTGTCACAGCA GGGCTTTTCAACACTGGGAGTTAATCCAGGAAGATATTCTTGATACTGGAAATGACAAAAAT GGAAAGGAAGACTCATAAAGAGAAAAATTCCTTATATTCTGAAACGGCAGCTGTATGAGAA TAAACCCAGAAGACCCTACATACTCAAAAGAGATTCTTACTATTACTGAGAGAATAAATCATT TATTTACATGTGATTGTGATTCATCATCCCTTAATTAAATATCAAATTATATTTGTGTGAAAATG TGACAAACACACTTATCTGTCTCTTCTACAATTGTGGTTTATTGAATGTGATTTTTCTGCACTA **ATATAAATTAGACTAAGTGTTTTCAAATAAATCTAAATCTTCAGCATGATGTGTTGTGTATAAT** TGGAGTAGATATTAATTAAGTCACCTGTATAATGTTTTGTAATTTTGCAAAACATATCTTGAGT

Table 4

TGTTTAAACAGTCAAAATGTTTGATATTTTATACCAGCTTATGAGCTCAAAGTACCTCGGCCG **CCACCGCGGTGAGCTCCAANNNN**

NNCTGTCCATCAAGAGTCCAAATTCCTGGTTTGAGTTTTCAGGAAATGTGCACAGAG GGAGTAACGTCATGCGCAAGGTACCCCAGAGTGTGTAATCTTAGGTAAGCCATCCCAGCATT TCTGCACATGTTGATAGGGAACTGAAGACTGTTTGGACTTGCTCGATCTTGCCCACCTTCTC CAACCCTCACGCAGAGATTCCAATCAAAAGTCCAGCTCTGTGCCATGTGCCAATTGTCATCG GAATGTGGTCATACCTCTGGTGGTGCTTTCAGAATATCAGTGCCAACAGTATGACAGGGATA AGCATGGTTTCCAAGGTCTATATATGAGGTCTACTGGGAACACTTCCATACCCAAACCCCTC TGAATGCCATAAACCACATTATGAAGTCCTTTACTGTCACGAATTTGAAACTCCAGGATGGTC ACTITCTACATTGCCATGTGTGCCTGTGCTCCATCACTTTTATCTTTCCCATCACTCCAGA TCCCACTGCCGGAGCAGAAATACTCTGTAATGGAATGCCATACTGTTAACCCTGAATGAGT TCGAGCCATCATTCCCAAAACCCTTGCAACCTGGGCAGCTGTGACCTCCCGAACACCAACG TGCACGATTATATTGCGACATTCTTCAATACTTGCACAAAAGCCATAGCCTACGTTCTTGCAT TGTCCATTAGAATGTCCCGTTTTTCAGGGTATAAAAGTGGT<u>GCGAGCACCACGGGACAGCG</u>T TCTTGGGGAAAATCTCTGCGCAGCGTCTTAAGAAAAGCGTCTATCTGTTCTTGTCCAACTCC AAAGGCTCCCTTCTGCCCAAAGAGGAGATGGGAGAGGAGGAGGTGTAGGACCTCTATTGCT ATATCTTGGAAGCCACCTTCTTGATTTCCACTGACGTCTGCGTCAATGTAAGAACGCAGAAG ATCTGGAAGCTTCTGTTTGATAAACTGGGCAGCGAAACCTCTAAGATCTGAGCTGGAAGAAT TCAACAGGGCAAGGCCAAAAATTACCTCTTGTACTTTGCTTAATTTGAGCACTTTACTCAGCT GGGCAAATAAGTGGGGTGCAGGCTTTAAACTCTTCTGATAGTGCAATGGATTATCAATGGCA TAGGACAGCGTCGAGATAAAATTTGGCTTTGTAATCAGCAACGCACACTCCTGAATCAGAAA CTGAGTCTGATGGAAATCTTTGCCACTGCTTTTACCATCGCCACTGAAATCCACATGCGAAA ATAGGCAGCGTAATAAATGCCTGTCTGCCTCAGGACCGTGCCGATTCACAATATGCTGTATT TCCTGCTGGCTGGCTCGGTAATTTTTCTTGGTTAAATTGTCCACCAGGTAGCTGATTTGAGA CAAGGCCAGCGAGAGCGAGTCAAGATTCATTGCTGGTTGGGGCGGAAGCAGGCGGCCGAG GTAATTAGGCTATATCTGGTATCTGTATAATATCTTCAGTTCTTTACCAGGGGTCTTACTC TGTTCTGAAACATGGCACCTCAGGCGGCTCCGGCAGCGCTGGACACAGGAAACTCCTGGGT CCCCGACTCCGGCTCTCCGACCCCCTCTTCGGTTAACTCCGCTTGTTTCTCTACAAAATG GCGCCGCGCGTACCTCGGCCGCCACCGCGGTGAGCTCCAA >308

>309

ATAGGGAGTCGACCCACGCGTCCGAAAGCACTTGAAAGGAAACAAGACTCCCTTTC ACACATGGATTATTATAAGTTTCAATCCTGGTATCTGTGCTTGATTTTTATCAGTTTTGTGTAG ATTITTATGTTCATATTTTAAATTTAAATCCCACATTGTAAAGTTTGTACAATTTGTCCTGAAG CTTTGTGTTTGGCTGCACCTGCATAAGCTGCTACAAATAGAATAAAGAATTTCATAGCCTGTA TCTATCATTTAGATGCATGGAAAAAAATGGGCTTTGCACACAATGGGTTTGGAGCTGACTGG TTCTTTTTTCTGTCCTCTTATTTTACCATCTTGTGAAAGGTTTCTGAAACTCGATAATAAAAAG CGGTTGGTGTAAATTATTCTTTTGTGTCACATTTTTAGAAGGAAAAACATAAAAGAATGTATCC TTAGTACTGGTTCTTAAACAGCCCATAAAAACCCATTGGCCTGAAGCTTATATCTCAGGCCTA TGCCCATCTTATAGTCTTGGAAGACAAAAGGCTGGTAGAGACAGTCTTCAGTGGCTTCAGTG ATGCTCTGTAGAGGCCAGGGTGTCTTGAGTGCTGTAACTCCCAAGCACTGGGCTAGCCTGA CTTCTGTATCTCCCTACCACCACCCCCTTAAAAAAATAAGGTAACAGCAAATCTATAGTAAAA CCATGTCTGCATAGAACGTGTTCAAATCCTCTGTTTTCATTAAATGTAAAAGATGCTGTCTCC ATTAAGTTGAATATTTGGAATTGGAGAAGCCATTGATTATTATTTTGAGTTTCTGTAATGTTTT ATAGAAAAGTAAGATGCTTATTCAGAATTTAAGAATGAAGGCAACTGAAATATGCATTGTTGT AAATTGATGAAACGGATGTTGTGTTTCCCTTTCCATCATCTGGTTTTTACCATTTCACTCAGTA GGTATTTTTAGAACACACTTATTTGAGGAAAGAGACATCAGATGCACAATTTTACATTTATAAA GGAACAAATGGGGAAAACTGAAAACTAAAAATTTTAAATGTATTAAATGCCATCCCTGAGCCT

TGTGCTGACACTAATCAAGTCCTGTGAGGTTTAAATTATTGACCTATCCACTCTACCTCCATT GTACAAAAAATATTTTACAACAAGCCTGGGTAAGATTCAACAGCATAGTAGTTTTGTATCCAA GGTTACTTCCCCACAACCACTTTAAACATAAGAAATGTGGTGGCAATATAAAGTTTGTAGCCT

>310

>311

>312 NNCAAGCATTGTTGTGGTCGGTCTGTCCCCCCCCCCGTGTTATCTCTATTCCGGG CCCTCTCAACCCATGTTTTAAACGGACCACCGTTGGGGTTTTTGCCCCGCGCGGGGGGGAA CATGTAACAAGGGGAATTCCCAATCCTCCGGAAGTTTCCGCAGGACCTTGTTGTCTGTTCCC AAGACGTTCAAATGGCGCTGTGGACCTTTAGGGAGAACCTAAAGGCTCAACTCGTTTCTTAT CTGTTCTGTTCTGCTAAATTCTTTTTCTAAGATATCAATGGTTTCTTCCCTAATCTTCCCTTTC TTCTCTGTCTACTAGCTGATTCTGTACTTCTTTTCTCTGTTCTTCTCTATTAATTGGGCA ATACTTTTTCATTTTGTTCCTTGAGTGACTCATTCAACTTTTTCACTGTCTCAATTTGTTTATT CAGAGAATCACATGTGATCTGTAAATCTTTATTCTTTTCAGTACTTTCATTTCTCTGAAGA AGTTCCATGTAGGATTTTGTCAGTATTTCATGTTCTTCAGCCACAGACTCTAACTTCCTATTAT GTTGAAAGAGATGCTCAATATCACTCTGCGCTCTTTCTGATTCAACTTGCTGCGCCTTCAGCA ACACACTAAGCTCTTCATTTTTTCTCTCAACTTCTCTCAACATACTAGCCAAGTGTCCGTGCC TCTGTTTCAGCTTGAGTTCTTTGACAGCGATGCTGAGCAATCAGTCTATCAGCCTGTGCAAG TTTCATTTCATATACATCCATTATGTCAGATATTCTCACATCACAAATCTGATCCTTAACCACC ATTCCAGACTGAAGTTTCTCTATTAATTCTTCAATATTCAATCCAGGAACACCATCTTTCAAAT GAGGAGTTAAACACTTTATTGATGTTGGAAAACTGTGATTTGATGATTGCCAGGGCATTTTTC TGGGTATATGTTCTGTTTCCTGTTGTCTATAGGCATTGTTTGCTGCTATACTTTCTCCAAGTAC TAAAGCAGGAAAATCTGGCAGTGGAGCAGCCTCCCAATAATATTCCTCAGTCCAGACTGTAC TTGTTCTCTATTATCTGACGTTAAAGCAAAAGCCAAAGGAGTAATCAAACGTGGGTCCTGAA GTATTTTGTAGAAGCTTACTTCCATACCAGGAACCAATGGTTTAAGTTTGTTAATCAAATCAA GAGTTTTCAAAATTACATCAGCAGCAAGTTTGCATAATTCAGAATCTGCAACCTTTGTTCCAA ATCCCAGGTCAATCTTGCCATATGTAAATTGTTGTTCTATAAGAGTGGTACACTTGACAGTTG TCAAGATTTTTGCAATATGCATTTTTAGTGTATCATCTCCACAGAGAGTTAACAAAACTTCAAT GGCCTTGGCAATCCTTTCACATTTTTTTCTTGTTAAAGCCTCATCTAGATTTTGTTCTGTGAAC TGAAGTTGATCAAGGATTGTAGGCAGCAGAAGGGTCACAAAACGATCAGCCGAGGAACAGT TAGCAGCATCTATGACATCCTCAAATATTTCCTTGAACAACTCCAATGCTAAAACAGAACAGT TTTCTGATCCGTCCAAAGGTTGGCTTAACCAGCGCAGTAGAGCCACAGTAGGTTCTAAACAT TTAGTATGGCTTCCCAGAGTGGCGCTGCCAGGTGGAGACTGTTCAAACATCATCTGAGTGA GCATATGGCGCAGCTGAGTCACTGAACAGAAGGCAAGAAGTAATTCTAAAACCTTTGAAGAG GAATCAGGATCCTTTCCATTAAGAAGACCTAATACTTGGTGAAGACATGAAGAAAAGTGCTC ATATCTGGTGAGATAATCAGCAATTTTAGGATTCTTAAGGAGATCCATCAGTAGGTCAACTGA ATACTTTCTAGTTAGAGTGCCATCACCGTTTATGAGAATATTAAATATTAGTTGAAAAGTCTGA TGAATGTTTCGAGCATGGAATAGCTTTTCCCCCACCTCTTCATTTAATGTCAAACTGGATAAT ATTGAAAGTGCAAACACAACCACAGTTAAACTACTATGGGCCAACAAGGTGATAAGAGTTCG ATAAAAAGATTTCACATTACTCAATGTCTTTATGTGCGTTTGAACAGAAAGATTGTGCCGACA AAGATTTGCCAATAATCCTAGACAAGGCATTTTTAACTCATCTTCAGAAGATTGAATGTGATC TATCAGGAACGTAATTAATTCATCTATATTGGCACCAGAATAGAAAATTTTGACATTATATGTT AACTTCTGTAGAAGTTGAATGCACCTGCAAAAACACCGAATCAGTGTGGCTGCTCCGACAAA CCACTCCCGCCAGCACACTATTCAGATTATATGTATTCTGAAGACAATCTCTGGTTTCCATGT CTACTGCTAGTTGAGACAGCAAACCGATAATACTTAAGATCAGTGAAGCACTTATGTTGGGG TCTTCAAGTAGCTCTACAAGGCAACTCAAGCATTCACTTGTTAATATCTGATTTGATGTAAATA GTCGTGTGAGTTTCTGTCCAGAAATTACCTCCAGAGTGCCGCAAAAGCTGAGTGGCGTTCG TGGAGTCCATTGCACCGGCCGGCCCGGCTTAGGGACCACCACCGCCCAGCGTGCGCC GGCCTTTAGCTTTCGCC

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AGATGACCTATATGTGTGTGGCTGGGAGAATATCATCTTAAAGTGAGAGTGATGTTGTGGA GACAGTTGAAATGTCAATGCTAGAGCCTCTGTGGTGTGAATGGGCACGTTAGGTTGTTGCAT AATAAAATATAGAGAAAAGAAAAATAGAGCAGTTTGAGGTTCTATGAGGTATGCAGGCCCAGA GCTGGGGGCAATTGTTTAAAGTCATTTTGTTCCCGACTAGCTGCCTTGCACATTATCTTCATT TTCCTGGAATTTGATACAGAGAGCAATTTATAGCCAATTGATAGCTTATGCTGTTTCAATGTA AATTCGTGGTAAATAACTTAGGAACTGCCTCTTCTTTTTCTTTGAAAACCTACTTATAACTGTT GCTAATAAGAATGTGTATTGTTCAGGACAACTTGTCTCCATACAGTTGGGTTGTAACCCTCAT GCTTGGCCCAAATAAACTCTCTACTTATATCAGTTTTTCCTACACTTCTTCCTTTTAGGTAAAC AATACCAAGAGGGGTTACTGTGCTGGGTAATGTGTAAACTTGTGTCTTGTTTAGAAAGATAAA CAAATTGATAGGGGGGCCAAGTAAGCCCCATATGCTTAATGATCAGCTGATGAATAATCATC TCCTAGCAACATAACTCAATCTAATGCTAAGGTACCCACAAGATGGCAAGGCTGATCAAAGT CGTCATGGAATCCTGCAACCAAAAGCCATGGGAATTTGGAAGCCCTCAAATCCCATTCCTAA TCTGATGAGTCTATGGACCAATTTGTGGAGGACAGTAGATTAAATAGATCTGATTTTTGCCAT CAATGTAAGGAGGATAAAAACTTGCATACCAATTGTACACCCTTGCAAAATCTTTCTCTGATG TTGGAGAAAATGGCCAGTGAGATCATGGATATAGAAGTACAGTCAATGTTCAGCTGTACCC TCCCACATCCCACTTCCTCAACACAATTCAAACAAATAGACTCAGACTGTTTCAGGCT CCAGGACAGGAAGTGCAGTGTAGGCAAAATTGCAAAAATTGAGGGCACAGGGGTGGAGGT GGGGGGTTGAATAACAAGCTGTGCTAAATAATTACGTGTAAATATTTTTTCATTTTTAAAA NNNNNNNNNNNNNNNNNN >314

NNNNAGCTTGGCACGAGGCCAGGATTTTTGAAACTTTACATTCTTTACGGTTAAGCA AGATGTACAGCTCAAAGACACTAAATTCTTCTTAGAAAAATAGTGCTAAGGAGTATAGC AGATGACCTATATGTGTGTTGGCTGGGAGAATATCATCTTAAAGTGAGAGTGATGTTGTGGA GACAGTTGAAATGTCAATGCTAGAGCCTCTGTGGTGTGAATGGGCACGTTAGGTTGTTGCAT AATAAAATATAGAGAAAAGAAAAATAGAGCAGTTTGAGTTCTATGAGGTATGCAGGCCCAGA GAGACATAAGTATGTTCCTTTAGTCTTGCTTCCTGTGTGCCACACCACCACCACACCATA GCTGGGGGCAATTGTTTAAAGTCATTTTGTTCCCGACTAGCTGCCTTGCACATTATCTTCATT TTCCTGGAATTTGATACAGAGAGCAATTTATAGCCAATTGATAGCTTATGCTGTTTCAATGTA **AATTCGTGGTAAATAACTTAGGAACTGCCTCTTTTTTCTTTGAAAACCTACTTATAACTGTT** GCTAATAAGAATGTGTATTGTTCAGGACAACTTGTCTCCATACAGTTGGGTTGTAACCCTCAT GCTTGGCCCAAATAAACTCTCTACTTATATCAGTTTTTCCTACACTTCTTCCTTTTAGGTAAAC AATACCAAGAGGGGTTACTGTGCTGGGTAATGTGTAAACTTGTGTCTTGTTTAGAAAGATAAA CAAATTGATAGGGGGGCCAAGTAAGCCCCATATGCTTAATGATCAGCTGATGAATAATCATC TCCTAGCAACATAACTCAATCTAATGCTAAGGTACCCACAAGATGGCAAGGCTGATCAAAGT CGTCATGGAATCCTGCAACCAAAAGCCATGGGAATTTGGAAGCCCTCAAATCCCATTCCTAA TCTGATGAGTCTATGGACCAATTTGTGGAGGACAGTAGATTAAATAGATCTGATTTTTGCCAT

Table 4

cgtccgcacataTTTGTGGAGTGCCTATTACGTGCCAGAAGCTGTTCTGGACACTGAGAA ACAGGGATGAAGAAGAACAGATCCAAGCCTTCCTGAGAGTAACCTCCCCAGGTTTCATGG ATGAGGAAACTGAAGGTCGTCCTGACTCAGGCTCATGGCTCCGACCCCGGCTTCTGTGGTT GGCTGCGCGCCACCCGGGCCTCTCCAGTGCCCCGCCTGGCTCGGCATCCACCCCAG CCCGACTCACACGTGGGTTCCCGCACGTCCGCCGGCCCCCCCGCTGACGTCAGCATAGC TGTTCCACTTAAGGCCCCTCCCGCGCCCAGCTCAGAGTGCTGCAGCCGCTGCCGCCGATTC CGGGATCTCATTGCCACGCGCCCCGACGACGCCCGACGTGCATTCCCGATTCCTTTTGG TTECAAGTECAATATGGCAACTCTAAAGGATCAGCTGATTTATAATCTTCTAAAGGAAGAACA GACCCCCAGAATAAGATTACAGTTGTTGGGGTTGGTGCTGTTGGCCATGCCCATC AGTATCTTAATGAAGGACTTGGCAGATGAACTTGCTCTTGTTGATGTCATCGAAGACAAATTG AAGGGAGAGATGATGGATCTCCAACATGGCAGCCTTTTCCTTAGAACACCAAAGATTGTCTC TGGCAAAGACTATAATGTAACTGCAAACTCCAAGCTGGTCATTATCACGGCTGGGGCACGTC AGCAAGAGGGAGAAAGCCGTCTTAATTTGGTCCAGCGTAACGTGAACATCTTTAAATTCATC ATTCCTAATGTTGTAAAATACAGCCCGAACTGCAAGTTGCTTATTGTTTCAAATCCAGTGGAT ATCTTGACCTACGTGGCTTGGAAGATAAGTGGTTTTCCCAAAAACCGTGTTATTGGAAGTGG TTGCAATCTGGATTCAGCCCGATTCCGTTACCTGATGGGGGAAAGGCTGGGAGTTCACCCA TTAAGCTGTCATGGGTGGTCCTTGGGGAACATGGAGATTCCAGTGTGCCTGTATGGAGTG GAATGAATGTTGCTGGTGTCTCTCTGAAGACTCTGCACCCAGATTTAGGGACTGATAAAGAT AAGGAACAGTGGAAAGAGGTTCACAAGCAGGTGGTTGAGAGTGCTTATGAGGTGATCAAAC TCAAAGGCTACACATCCTGGGCTATTGGACTCTCTGTAGCAGATTTGGCAGAGAGTATAATG AAGAATCTTAGGCGGGTGCACCCAGTTTCCACCATGATTAAGGGTCTTTACGGAATAAAGGA TGATGTCTTCCTTAGTGTTCCTTGCATTTTGGGACAGAATGGAATCTCAGACCTTGTGAAGGT GACTCTGACTTCTGAGGAAGAGGCCCGTTTGAAGAAGAGTGCAGATACACTTTGGGGGATC CAAAAGGAGCTGCAATTTTAAAGTCTTCTGATGTCATATCATTTCACTGTCTAGGCTACAACA GGATTCTAGGTGGAGGTTGTGCATGTTGTCCTTTTTATCTGATCTGTGATTAAAGCAGTAATA TTTTAAGATGGACTGGGAAAAACATCAACTCCTGAAGTTAGAAATAAGAATGGTTTGTAAAAT CCACAGCTATATCCTGATGCTGGATGGTATTAATCTTGTGTAGTCTTCAACTGGTTAGTGTGA GCCAGGTGGATGTTTACCGTGTTATATAACTTCCTGGCTCCTTCACTGAACATGCCTAGT CCAACATTTTTCCCAGTGAGTCACATCCTGGGATCCAGTGTATAAATCCAATATCATGTCTT GTGCATAATTCTTCCAAAGGATCTTATTTTGTGAACTATATCAGTAGTGTACATTACCATATAA TGTAAAAAGATCTACATACAAACAATGCAACCAACTATCCAAGTGTTATACCAACTAAAACCC gttaaacaatggggggggggcgcagtgaagaacgggcaagggccagagagacgggccqcaagggggtttocccaaaaaaccgg geeggteegaaacagggtegggtegggaac >317

GTTGAAAGAGATGCTCAATATCACTCTGCGCTCTTTCTGATTCAACTTGCTGCGCCTTCAGCA ACACACTAAGCTCTTCATTTTTTCTCTCAACTTCTCAACATACTAGCCAAGTGTCCGTGCC TCTGTTTCAGCTTGAGTTCTTTGACAGCGATGCTGAGCAATCAGTCTATCAGCCTGTGCAAG TTTCATTTCATATACATCCATTATGTCAGATATTCTCACATCACAAATCTGATCCTTAACCACC ATTCCAGACTGAAGTTTCTCTATTAATTCTTCAATATTCAATCCAGGAACACCATCTTTCAAAT GAGGAGTTAAACACTTTATTGATGTTGGAAAACTGTGATTTGATGATTGCCAGGGCATTTTTC TGGGTATATGTTCTGTTTCCTGTTGTCTATAGGCATTGTTTGCTGCTATACTTTCTCCAAGTAC TAAAGCAGGAAAATCTGGCAGTGGAGCAGCCTCCCAATAATATTCCTCAGTCCAGACTGTAC TTGTTCTCTATTATCTGACGTTAAAGCAAAAGCCAAAGGAGTAATCAAAGGTGGGTCCTGAA GTATTTTGTAGAAGCTTACTTCCATACCAGGAACCAATGGTTTAAGTTTGTTAATCAAATCAA GAGTTTTCAAAATTACATCAGCAGCAAGTTTGCATAATTCAGAATCTGCAACCTTTGTTCCAA **ATCCCAGGTCAATCTTGCCATATGTAAATTGTTGTTCTATAAGAGTGGTACACTTGACAGTTG** TCAAGATTTTTGCAATATGCATTTTTAGTGTATCATCTCCACAGAGAGTTAACAAAACTTCAAT GGCCTTGGCAATCCTTTCACATTTTTTTCTTGTTAAAGCCTCATCTAGATTTTGTTCTGTGAAC TGAAGTTGATCAAGGATTGTAGGCAGCAGAAGGGTCACAAAACGATCAGCCGAGGAACAGT TAGCAGCATCTATGACATCCTCAAATATTTCCTTGAACAACTCCAATGCTAAAACAGAACAGT TTTCTGATCCGTCCAAAGGTTGGCTTAACCAGCGCAGTAGAGCCACAGTAGGTTCTAAACAT TTAGTATGGCTTCCCAGAGTGGCGCTGCCAGGTGGAGACTGTTCAAACATCATCTGAGTGA GCATATGGCGCAGCTGAGTCACTGAACAGAAGGCAAGAAGTAATTCTAAAACCTTTGAAGAG GAATCAGGATCCTTTCCATTAAGAAGACCTAATACTTGGTGAAGACATGAAGAAAAGTGCTC ATATCTGGTGAGATAATCAGCAATTTTAGGATTCTTAAGGAGATCCATCAGTAGGTCAACTGA ATACTTTCTAGTTAGAGTGCCATCACCGTTTATGAGAATATTAAATATTAGTTGAAAAGTCTGA TGAATGTTTCGAGCATGGAATAGCTTTTCCCCCACCTCTTCATTTAATGTCAAACTGGATAAT ATTGAAAGTGCAAACACAACCACAGTTAAACTACTATGGGCCAACAAGGTGATAAGAGTTCG ATAAAAAGATTTCACATTACTCAATGTCTTTATGTGCGTTTGAACAGAAAGATTGTGCCGACA AAGATTTGCCAATAATCCTAGACAAGGCATTTTTAACTCATCTTCAGAAGATTGAATGTGATC TATCAGGAACGTAATTAATTCATCTATATTGGCACCAGAATAGAAAATTTTGACATTATATGTT AACTTCTGTAGAAGTTGAATGCACCTGCAAAAACACCGAATCAGTGTGGCTGCTCCGACAAA CCACTCCCGCCAGCACACTATTCAGATTATATGTATTCTGAAGACAATCTCTGGTTTCCATGT CTACTGCTAGTTGAGACAGCAAACCGATAATACTTAAGATCAGTGAAGCACTTATGTTGGGG TCTTCAAGTAGCTCTACAAGGCAACTCAAGCATTCACTTGTTAATATCTGATTTGATGTAAATA **GTCGTGTGAGTTTCTGTCCAGAAATTACCTCCAGAGTGCCGCAAAAGCTGAGTGGCGTTCG** TGGAGTCCATTGCACCGGCCGCGGCCCGGCTTAGGGACCACCACCGCCCAGCGTGCGCC **GGCCTTTAGCTTTCGCC** >318

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Table 4

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ANNNNN

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Table 4

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TTGGAGCTCCACGCGGTGGCGGCCGAACGTTGGCTTATCATAATATTGCTGACAGC AATAAACTGCCACATCTTCAGCCTGCAGGCTGCTGGTGAGAGTGAAATCTGTCCCAGA CCCGCTGCCACTGAATCGGTCAGGGACCCCGGATTCCCGGGTAGACGCCCAGTAAATGAG CAGTTTAGGAGGCTCGCCAGGTTTGTGCTGGTACGCGGGAGAATGGCTCGCAAGCTGACT GTGAGCTCGGAAATCCTTTTAAAAGAAATTCAAATGTCACTTTTTATTTGGTTTTAAGTACCTC GGCCGCCACCGCGGTGAGCNNN >364

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NGAGCTCCCGCGGTGGCGGCCGAGGTACTTTGCATCCTTCAACCCAATCAAGCTG
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CAAGAAATAGTCCCACACCAAAGTCAGGATCAAATGATTCCTGGACAAGCCACCAAGTCAAT
TCAACTGAGAGAAAGAAGCCTTTGCACCAGTTGGTGCTGGAAGTTCTGGATATGCACCTGGA
TAAGTGAACCCCCCTCCGTCACCACACACACACACATTAATTTGAGATGGATTGCAAACATAAA
AGCTAAAACCATTAACACTTCTTGAAGGTAACATAGAATATTTTGTAATGTTATGATAGGCAAA
AGTCTCTTAGGACACACAAAAAAATTAACCATAAAAGAAGAAAATGGCTGGGTGCAGTGGCT
CACACCTTTAACACCAGCATGTTGGGAN
>367

gTCATCAATAATATCCTTGTGTCTCAAAATCTCCATGGTGAATGTCTTTTGAACTTGAA GCTGAGCAGAAGTCTGGTCTCAAGCCTGATGTCACCCAGAGACATCAATTTTTTTCT GTTTCAGTAATCCAGGATAACTCAGCATCAGCTGCTTGGTCAAACTGCTGTGATCGCAGAAT GGCTGCATCGATCTCCTCCACCTTCTGAGTGATGGTGTCCACTAATCGGTAGCGCTCAT TGTCCTCAGCTACCATTTTCTCAAGTCCTTCTCTTGCCCTCCATGGTACCAGTTCCAGCAAAG

Table 4

CACTGCTCACTTCATTAAGGGAGTCCAGTAAGGCTTTGTTGTTCTTAGCTTCCTTTTTCAGTT CCTTTGGTCTCATTTGTGCTTGACTTGCTTCTTCTCCTTTCAGAACCTGAGTTTCATATGAAA GTAATTCCACCTCCACTTTGTCCAGCCAGGTACACAGCTCTTCGTGTGTGGAGTGCAGCCG CCTTGCAAGCTGCAGCCCtgattcCAGAGTCTTGGCCACATCAGTGCTCAGTTTAGTAATGTC TTTGTACCTTGCTTTAATGGCTTCCAATTTATCTTGAATTATTAAAACTTCATCACCTGTGGTT TGTTTAAGTAGTTCTAAACCATTTAGTAAAGCCTGATCTACATTTTGTTTCCTGAGTAAGATGT CCTCTTGCAGAACCCGAAGTTCAGACTGCTGCTTCCATAGCCCCTCAGTGCTGTAATCCTGG ACTGAGAGCTTGCTCAGTTTGTCATGCACTTCATTCAGCCAGTTCATCAGCTTCATCT TCCCCAAAAATCTTAGCATTACATAAGGCCTGCTGGAGGAGCTCAGACCTGCTGTGACTTTT AAGAGGATCTTGGGCGCCGCCAGTCTTTAGCACCAGTTGGTGTAGGAGTTGAGACCTACTT CACAGTAGTTCTGTGGACAATCACAATGGGAATCCAAGGAGGGTCTGTCCTGTTCGGGCTG CTGCTCGTCCTGGCTGTCTTCTGCCATTCAGGTCATAGCCTGCAGTGCTACAACTGTCCTAA CCCAACTGCTGACTGCAAAACAGCCGTCAATTGTTCATCTGATTTTGATGCGTGTCTCATTAC CAAAGCTGGGTTACAAGTGTATAACAAGTGTTGGAAGTTTGAGCATTGCAATTTCAACGACG TCACAACCCGCTTGAGGGAAAATGAGCTAACGTACTACTGCTGCAAGAAGGACCTGTGTAAC TTTAACGAACAGCTTGAAAATGGTGGGACATCCTTATCAGAGAAAACAGTTCTTCTGCTGGT GACTCCATTTCTGGCAGCAGCCTGGAGCCTTCATCCCTAAGTCAACACCAGGAGAGCTTCTC CCAAACTCCCCGTTCCTGCGTAGTCCGCTTTCTCTTGCTGCCACATTCTAAAGGCTTGATATT TTCCAAATGGATCCTGTTGGGAAAGAATAAAATTAGCTTGAGCAACCTGGCTAAGATAGAGG TCTAAGAGTGAAGTAGGTGTGACTTGAACTAGATTGCATGCTTCCTCCTTTGCTCTTAGGAA GACCAGCTTTGCAGTGACAGCTTGAGTGGGTTCTCTGCAGCCCTCAGATTATTTTTCCTCTG GCTCCTTGGATGTAGTCAGTTAGCATCATTAGTACATCTTTGGAGGGTGGGGCAGGAGTATA TGAGCATCCTCTCACATGGAACGCTTTCATAAACTTCAGGGATCCCGTGTTGCCATGGAG GCATGCCAAATGTTCCATATGTGGGTGTCAGTCAGGGACAACAAGATCCTTAATGCAGAGCT AGAGGACTTCTGGCAGGGAAGTGGGGAAGTGTTCCAGATAGCAGGGCATGAAAACTTAGAG AGGTACAAGTGGCTGAAAATCGAGTTTTTCCTCTGTCTTTAAATTTTATATGGGCTTTGTTATC TTCCACTGGAAAAGTGTAATAGCATACATCAATGGTGTGTTAAAGCTATTTCCTTGCCTTTTTT CATGTGACTGGCAGTATTAAGTGTGCTTATTTTAAATGTTACTGGTAGAAAGGCAGTTCAGGT ATGTGTGTATATAGTATGAATGCAGTGGGGACACCCTTTGTGGTTACAGTTTGAGACTTCCA AAGGTCATCCTTAATAACAACAGATCTGCAGGGGTATGTTTTACCATCTGCATCCAGCCTCCT GCTAACTCCTAGCTGACTCAGCATAGATTGTATAAAATACCTTTGTAACGGCTCTTAGCACAC TCACAGATGTTTGAGGCTTTCAGAAGCTCTTCTAAAAAATGATAACACAggcccaagatgagggtacc gagetegaa >368

NNNNCGCTCTTGTTGCCCAGGCTGGAGTGCAATGGCATGATCTTGGCTCACCACAA CCTCCGCCTCCCGGGTTCATATGATTCTCCTGCCTCAGCCTCCCGAGTAGCTGGGACTACA GGCATGCGCCACGCCCGGCCAATTTTGCATTTTCAGTAGAGGCGGGGTTTCTCCATGT TGGCCAGGCTGGTCTCCAACTCCCGACCTGAGGTGATCTGCCCACCTCAGCCTCCCAAAGT GCTGGGATTACAGGCATGAGCCACCATGCCTGGCCAAAAATAAAGAACTTTTAAGACAAACC TGAAAATCCCAGTAAGAGCCATCTTTTGACTGGCTTTATGTTACTCTTCAGATACCGTCTAAA AGGCTCAAGACCAGCCAGATTTTAGGTAGGGTTTTTTGCTGCAAAGTAGAAGCCTACTGTCT CTAGAAAAGAAACGCAGTACTTAGGGATCAAATGGGGTGGCAGTGGGGAGGAGGAATAGTC ATAAAGATCAATGGTCATTAAAATTCATTCCAAAACAAAACTGCATATATACTTTGGAGCTCCA CTTCTTTGTTTTCGTAAATAAAAGAAACTAATTGACGAGTATGTACAATGTGCCAGGCACCTT GTCTTGAGCCAAAGAATTACCTGGGGTCCGTTGAGTTTCAAATCTGAAAATTTCTGTCTTTCA AGGTCAGCATCGCCCACAAACCGGCCGTTCTGAAACACAGCCCACAAGAAGACAATTCATTT TGTGGCCTTCTTTGCTCTATCAAATACAAACGATCTTTTTTTCAAACAGGAAAAGGGCTTTC AAGAAGATATGTGTGGCCTGGAGTCCTTGTGTCAGTACTCATAAAAGAACCATTCACTCTTA GTCTTAGCACTTTCCTCAAAATTGAAAATCAGGCCTGGAACTCTGGCAGACAGGGTCTCTGG AACATAAGAACGTAAACTCCACGAGGGCAGAGGGTTTTTTGGGATAAGTTTAGTTTAGTCTA GTGCCTTGAACAGTGCCTGGCACATAACAGGTGCTCAAAAACTATTTGCTGAATAAACAGCA CAGACCTAGATAATTTCCCTTACATGCAACCTTTTTGGAAAGCCATAAAAATGTAAGGAAAGT

Table 4

TTGGAGCTCCACGCGTGGCGCCGAACGTTGGCTTATCATAATATTGCTGACAGC
AATAAACTGCCACATCTTCAGCCTGCAGGCTGCTGGTGGTGAGAGTGAAATCTGTCCCAGA
CCCGCTGCCACTGAATCGGTCAGGGACCCCGGATTCCCGGGTAGACGCCCAGTAAATGAG
CAGTTTAGGAGGCTGGCCCGGTTTGTGCTGGTACGCGGGAGAATGGCTCGCAAGCTGACT
GTGAGCTCGGAAATCCTTTTAAAAGAAATTCAAATGTCACTTTTTATTTGGTTTTAAGTACCTC
GGCCGCCACCGCGGTGAGCNNN
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Table 4

NNCTAATCTCTTCTAGGCCCCGCCCCTTCTGAGCCCCCCCCTCCTTCGGCCTGTATG ATAGGCTCTTCCTCCATTTCCGGCTTCTGGGACTCGGGTGCACCACGGCTTCCGGTGTCAT GGAGCCGCCGCGTTTTCTGGAGGCCTTCGGGCGGCTGTGGCAGGTACAGAGCCGTCTGGG TAGCGGCTCCTCCGCCTCGGTGTATCGGGTTCGCTGCTGCGCCAACCCTGGCTCGCCCCC CGGCGCCTCAAGCAGTTCTTGCCGCCAGGAACCACCGGGGCTGCGGCCTCTGCCGCCGA GTATGGTTTCCGCAAAGAGAGGGCGCGCGCTGGAACAGTTGCAGGGTCACAGAAACATCGTG GAACTCCTGGATGTCAGTGTTTCGGAATTGCTCTTATATTCCAGTCACCAGGGTTGTTCCAT GTGGATGATACAGCATTGTGCCCGAGATGTTTTGGAGGCCCTTGCTTTTCTTCATCATGAGG AAACTCATTGACTTTGGACTTAGCTTCAAAGAAGGCAATCAGGATGTAAAGTATATTCAGACA GACGGGTATCGGGCTCCAGAAGCAGAATTGCAAAATTGCTTGGCCCAGGCTGGCCTGCAGA GTGATACAGAATGTACCTCAGCTGTTGATCTGTGGAGCCTAGGAATCATTTTACTGGAAATG TTCTCAGGAATGAAACTGAAACATACAGTCAGATCTCAGGAATGGAAGGCAAACAGTTCTGC TATTATTGATCACATATTTGCCAGTAAAGCAGTGGTGAATGCCGCAATTCCAGCCTATCACCT AAGAGACCTTATCAAAAGCATGCTTCATGATGATCCAAGCAGAAGAATTCCTGCTGAAATGG CATTGTGCAGCCCATTCTTTAGCATTCCTTTTGCCCCTCATATTGAAGATCTGGTCATGCTTC CCACTCCAGTGCTAAGACTGCTGAATGTGCTGGATGATGATTATCTTGAGAATGAAGAGGAA TATGAAGATGTTGTAGAAGATGTAAAAGAGGGGTGTCAAAAAATATGGACCAGTGGTATCTCT **ACTTGTTCCAAAGGAAAATCCTGGCAGAGGACAAGTCTTTGTTGAGTATGCAAATGCTGGTG** ATTCCAAAGCTGCGCAGAAATTACTGACTGGAAGGATGTTTGATGGGAAGTTTGTTGTGGCT ACATTCTACCCGCTGAGTGCCTACAAGAGGGGGATATCTGTATCAAACCTTGCTTTAATCAGTA ACCTAAGGACTGTTTCCTTTTCTCCTCTTCCATTTCTTGGGTTATTCCACATATGAATGCAG CATTGCCCAAGCAGTGACTGCGTTGCATACATTTGGCACTGAGTAGGACAAGACCTCTCAGC TATACATTGAGGGGTTTTAGAGCATCCATGTGGGCAACCCTTTTTTGTGCGGGAGAGCAGGT GTTGCTCTTCAGTATGTAGCCTAAAAAAATCTTAATTATTTCATGGATCATGAAGCAAGGATG AATAATATCATGTCTTGGTAAATACTAACAAATTTGTTAGGTTTGGTGACATCATTTACAGATT ATTTCTTTATGTTGTCCAGTGGTTCTTCCTTATTGTTGATATCCATAAGCTGGCACTGGATGC TCTCAGTAATGTTAAGTAATTGTCAAGCAGCAGTTACCTACTGTGTTCTTAACACTGAGTTGT GAATTTTTCTTAAAGCAGTACTGTAGTACTGAATATTCCTTTAAAGGAACTGCAGTGAGCCT ATCTAAGTTTTTTAAATTAAGGCTTTTAAAATAGAAAGCTGATGCTTGATCTTGCACAATTTTT TGTACTTTATAGTGTGAATCCTGTGAGCTAATACAGTCTATACTTATTTCTTCCCTACCTGTTT ACAAAACATAATTCCTGAGAGGCCCAGAACAAACTGGAGTCTAGCCTGGAGTTAAATTGAGA CTTCTAAAATGATTGGAACAAAGACTAAGTTGTGCCAGATGTAAATCAACCCCTCTTTTAGTT TACTTTAGACTTTGTATTAGCTCATCTTTTTTTGTAGTAAATCTATAGTTTTAAGGTTTCTCAAGA TGTGGCTCTACCTACTATGATGAAAATTGAAGTGGGTCAAAAGAATTAGATGTACAGTGAAG GGAAAAGAAAAAAATGGGCGAAGAGGGGTGGAAAATAAAAGGATTCTTTTTCTTCCTTT

CTGTTTCTCGTATCCCTGCTCCCTTTTTCCTCCCCTTCCCTCATTCTTTGCCTCTATCCTTAGC TGAAGACAAACTAGAGGAGCAGCATCCCAGGTAGTTTGGCTTTTGACTGCAAGGTAGTTAAG GATTCATAGCAACATAATGTGTCCCTGAGTAGAGGATGCTGCTATGCGTGAGTTCATGGACA CAAGTTGATTACATGGTTTTTAGAATTATAATTATGGATTCTTCTTATTTCATGGTAGGTTGTC TTATATACAGGTTATTAATTTTTTTATTTATTTATTTTTTCCTAAGGAAAAAGTCTTCTATCTTTC CCTGCTGGAAGCCTCCTCATATTTCCTTATGTTTGCCATGCAGGTTGCTGAGAGTCCAGTTA AAATTTGCATTTTACAGAATGAAATACTTTACCCCATTCAAACAATTATTGTTTGACATTTTAGT TATITATAATTGTCAAATTCAGGACTCCCCTTTAATGTTTATTATGAAACCAAATTTGGCATAA GGAGGCTGATTTATGAATTACCAAAGGGTCTTGTGGCATGTTCCCCAATACATGCCCTTAGA AGGAAGAACTATTATTTTATTTTGGCCCTTTCAGGAGTTGATTATCAATTGGTTCGTTTTCA **AGTCACATTCACGTGGGCAGAACCCGTATTGTGAAGACCTAAACTTTCCTAAATGTTCATAT** GGGTAGCAGATTTTGTGGTGATTAGAAACATCAGGTCCTTAAATACGATGAACATGGGATAC AAAGGAATTCTTTATAAGGGCAAGTATCCTAAGTTAGCACATTTACTTTTCTCTCCCCTCCGC CCCCAAAAGAAAATCCTTACAAATAAACTGCAGGTAGGCTTCTAAGCCTAGTCCTGCAGTA TGCTGCTAACATCTTGATGCCAATCTTCACAGCATTCTTTGATTGTCATCTTATTGCTGATACA TTCATACATATTTTAGTGCTTGACACTGTAGAATTTTGTTACAGAAGATGGTTACTAGATTTT **AAGGGAGCTGAGGGAATAATTGATGAGCCTTGAATTAACCATGCATTTAATTAGATTTTTTGT** TGTTGTTGTTGTTTTTGAGATGATGTCTTGCTCTGTTGCCCAGGCTGGAGTGCAGTGGCT CAATCTCGGCTCACTGCAACCTCTGCCTCGCAGGTTTGAGCGATTCTCCTGTCTCAGCCTCC CCAGTAGCTGGGTTTACAGGCGCTTGCCACCACACCTGGCTAGATGTTTTATATTAAAGCCA **GAGAANNN** >376

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Table 4

TCTGCCAACAGAGGCCATGTGGAAGTGTTACATCACCTTTTGCTTGGAAAGATTTACTAAGA AGTCAAATAGTGGGTTCCTTAGAGGGAAGAGGTTGGAAAGAACCATGACTGTATTCAGGAAG GCACATGAACTGAAGCTTCTGTCAGAATGCCAATACAAGCAGTTGAGTGTTTCGTTGCTGTG TTATAACTTCCTGAGGGAAGCTCTGGAAGTGGCAGTAGCTGGAACTGAATTGTTTAGAGACT CTGGGACAATGTGGCAGCTGAAGCTGCAGGTGCTGATCGAGTCAAAGAGCCCTGACATAGC CATGCTTTTGAAGAAGCCTTTGTGCACCTGAAACCCCAGGTTTGTCTGCCATTGTGGATTTC CTGGGCAGAGTGGAGTGAAGGTGCCAAAAGCCAAGAAGACACTGAGGCAGTCTTTAAGAAA GCTCTCTTAGCTGTCATAGGTGCCGACTCAGTAACCCTGAAGAATAAGTACCTGGATTGGGC TTATCGAAGTGGTGGCTACAAAAAGGCCAGAGCTGTGTTTAAAAGTTTACAGGAGAGCCGAC CATTTTCAGTTGACTTTTTCAGGAAAATGATTCAGTTTGAAAAGGAGCAAGAATCCTGCAATA TGGCGAACATAAGAGAATATTATGAGAGAGCTTTGAGAGAGTTTGGATCCGCAGATTCTGAT CTTTGGATGGATTATATGAAAGAAGAATTGAACCACCCCTTGGTAGACCTGAGAACTGTGG ACAGATCTACTGGCGAGCGATGAAAATGTTGCAGGGAGAGTCAGCAGAGGCATTTGTAGCT AAACATGCTATGCATCAGACTGGCCATTTATGAAGATGAAGAATACAGTCAGCTTTGTGAAAT AGTATTGCAAGCAAGCCCCGTGGGCAAATTTGTATTGAGTCCATCTGTAATTTGCTCAGTGA TGGCAGACAAGATGGCTGTCTGGTTTTGAGACACCTTTAATTTTATGTTAACTTGTTAAATC NNNNN >378

NNNNNNNNNAAACCAACTTTGTGATTTTTATTGATGGGCGACAACTTTATACTCCT AGATATCACTATACTTTTAAACCAACTTTGTGATTTTTATTGATGGGCGACAACTTTATACTCC TAGATATCACTAAACTGTGTACAATTAGGGACGCAGCATTAGAGAAGAGCAGACAGCAGAAT TAAACAGAGCAGACTGAAGGAGAGATCTTCATTATTTGCCCATTTTTCATTATGTGTACACAG AAGCATGAATGCAATTTGAAATCTTTTAATGGCAATAAAGTTACAATCACCCATCTATGTAGA CTAACATTITAACTCCAAATATTTGATCTGCAATGTGTACGTAAGCAGTTTCTCTCAGTACAAT TATTAAAATTTTTCCTGTTAGGAACCAGCAACTTATTTTTTATGTTTATTTTTCTTTTGAAGTAA GAACTAGTTCTTTGATAACTGGCTCATTTTTATCATTTATCAAAAACTAAAGGGTAGGGAA GAAAAGTGTGATGGATTAAAAAATTTCTTTTTTAAGGAAAGATAAAATTCATTTTCACAAATTT ACAAGTGTTGTTGCTGGTGCAGGATTTATTCTACTAAGCAATGAGACTGGGGATCAAATCCA CTTTCTTATCTCAGGAATCAGCATTATTTCAGAAATATGGGTTTTTGTGTATTTTCTAAAATCA AGCAACAGTCTGTTTCAACCAAATGATTTTGATTTGGAAGTTAGAGTCAACAGAAGCTGTGTT GTGCACGAACCCCAAGGCATCTCCTTTTCATTCTAGCCCATTTTTTGCAAAGGGAGAAAGAGT CGGGCACTGGGCGCACACAGGGCACACAGGGTTTACAGCAGGTCCACTCGGCGGTAAT ACAGGAGGTAGGCTGTCAGCAGTTGGTTTCACCACCTGGTACTGGTTGATCACCTT GACTGTCTGGTCATCGATGCGCAGCCAGCCATTCAGACCGATCTGGAAGACGTCTGTAGTG TAATGGCCGCCCGTCGCACTGTTGCCGTGATGGTAGACCACTGCAAACAGCCGATAGGTTC GGTGGCATTTAAAATTCTTATTTTTAACCCCTGGAGAAAGCAGTTCTTTACTAATTTCCAAGTC TTTCAGGTGCAGCACGAGGACAGGAGGGAGTTTTTCCAGAGTCACTCTTCGACTTATCTCAA CCTCTTGTTTGGTTTTTGTGGTATAACCTTGGACAGATTCTCTTGCCACCAAGCTCTCCAGTG CATCCTGGACTGTGCGTATCTTGTCTGACTGGATATCCAACTGCAACGTGAAAAATGGCTGC AAAGTGGCAGATTCTTTTGAACTCTGCTGGTAAACCACAGACCTGATGTGTCCACCAAAAAT GCCGGTGATTGGAGTCTGAACAAAATCCGCCTGGCGGGTGACGGAAGTCTTGTTCCGGGG GCCCACTTGTTCCCATTCATCCTCGCTTCCTTCACCTTGTTCTTCCTGCTCTTCTTCATTGAC CGAGTGGTTTTTGGGGCCGTTGGAAATCGTAAGTTCTGAAAAGGAGAGCATCTGCTTACACT >379

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CAATCTACTCTCATTTTTTATTCAGCCTCTAGAACATGGAAGCTTTAAAAGTGAATTGGCTAAA
TAGGCAAGACCTTGTGCCCATTAACAGGTCTTAAAGTAACAAGAGCGGCTGGCGGCCGAGG
TACGCACAACCGAAGCGTAGAGTCACACTTGCAACAAAAGGTTACAATATTGTAATGGGCTC
TGTCCGGTTCTGCTTGTCCAGCTGGACCATCTATTTCATCCTCCTCCTCTGAGCTGTCATTTA
ATTGCTCATAACAGTAGAGATCAGTTGTCTCTGGTTGCAAATCTAACATATATTCATGCAATG

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Table 4

TAGGTGTATCTCCATGCATGATTACAGCTGGGTTTCTCTACGTGTTCTTGATGATCTGCAACA AGACATACATCGACCGGTCCACCGACCCCTTATATTATGGAATCTTTGCTTTTTGTCCAGATG TCTTTGCTTTCTTCAGGACACAGTGGCTTTTGACAGTTAATACACCTCACGTCGCAGTAACT GTTGCTTGCAGTACCTCGGCCGCCACCGCGGGGAGCGCGAATCAGTGGTGCTGCCCCCCC CATTCGGCAGGGAACACCGATGGCCCATGCTTCTGGCCGTCCTTTTACACACAGGAAACAG CNN >380

gtCGACCCACGCGTCCGGAGCGCAGAAGCGGCTCGAGGCTGGAAGAGGATCCTGG GCGCCGCCAGGTTCTGTGGACAATCACAATGGGAATCCAAGGAGGGTCTGTCCTGTTCGGG CTGCTGCTCGTCCTGCCTTCTGCCATTCAGGTCATAGCCTGCAGTGCTACAACTGTCC TAACCCAACTGCTGACTGCAAAACAGCCGTCAATTGTTCATCTGATTTTGATGCGTGTCTCAT TACCAAAGCTGGGTTACAAGTGTATAACAAGTGTTGGAAGTTTGAGCATTTCAACGA CGTCACAACCCGCTTGAGGGAAAATGAGCTAACGTACTGCTGCAAGAAGGACCTGTGT AACTTTAACGAACAGCTTGAAAATGGTGGGACATCCTTATCAGAGAAAACAGTTCTTCTGCTG GTGACTCCATTTCTGGCAGCAGCCTGGAGCCTTCATCCCTAAGTCAACACCAGGAGAGCTT CTCCCAAACTCCCGTTCCTGCGTAGTCCGCTTTCTCTTGCTGCCACATTCTAAAGGCTTGA TATTTtcCCAAATGGATCCTGTTGGGAAAGAATAAAATTAGCTTGACCAACCTGGCTAAGATAG AGGGCTCTGGGAGACTTTGAAGACCAGTCCTGTTTGCAGgggaAGCCCCACTTGAAGGAAG ÁAGICTAAGAGIGAAACACATTCCTGAAGGCGCTAAAAGACGAAAAGTTACAAGGACTGAAGA CCAAGCAACCTGGAAAGAAGTCGGCCTCTCTCTCTCAGGGGGCTGCCTACCAGAGCTTGGG CAGCCACCTCCTTAGGTGTTAGTGCTTAGATAATGTGTCCCATTTGTTGTCATTTCAAAGATG GTTATTTTCTGTTCTGTATTTACCGCTGTTCTTGTTGCTACCAGCATGT

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Table 4

AGCCTGCCTTTTGGCTACCCATCCCAACAATATCAAGAGGGAATGACTAAGTATCAGCTAGA AACTTAGCCATGTCTCAACATTCCTGGATTATCTGAAAAGCTGTCGATGCCCTTTTACAGGTT TATGGTGACAGACCCGTATCATCTTAAAGTATGTTCATAGTTAAGGCTTGACTTAAGAAAATA AGAGAACCAGACATAATGGAAAGACCTCTTCAATAATGTTGTCATGCCTCTCAGTGAACGTG CTCACAGTCACACTTGGTTTGGCTCCCCAAACCCACAATAGAAAAGGAAAAATGAGTATTTT GTTTTCATCTGTTTTGTATTTAAAGGCATTGGGTTACTTCCTCCTGCCCTCTTTTCTTCCCTG AACAAGAGTTTACAACTCCTCATGGCTTCTTAATAGGTGAAGTAGGTGAAAAGTCTGAGAAG CTCACAGCAGGGTTTGCCGTCCCAACTATGCAGCTGAGAGGTCGCCAGCTCCTGTGCCTTC CCAGCCCCACTATAATTGGCAGTATGTTTGTTCATGTTTCCTGAAAACATTTTCTTTAAAAAG GACAAGAGCAACATCCAAACATTCCCCAAGCCCCACCCCAGTAAGTCTGAGATTATCTTAT TCCTTCCCTGAAATAATTATAAAGAAGCATTTCAGGCAAAATACTTAGTATTAATGGTCTCTTA GGGACCAAAAAGTATCTTGGCCCTTTGGGAGTTTCCTTGTCAGAAAGTATAAGCCTCAACAG AAGTGTGTTCATATCCCACCTAATTTACAACAGAAGATAACCCCATCCCATCCCAAAACATA **AAAATACAAGTCTATGCCCATAGAACN** >395

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CTCCTGCTGTGTCCACTCAGCCCCCATCCATGCACTCCTCTCTCCTGGTCACTCCTCCTCAG CCACCTCCCAGAGCTGGCCCTCCCAAGGACATCTCCAGTGATGCCTTCACTGCCTTAGACC CACTTGGGGATAAAGAGATCAAGGATGTGAAAGAAATGTTTAAGGATTTCCAACTGCGGCAG CCACCTGCTGTGCCCGCGCGGAAGGGAGACAGACTTCTTCTGGGACTTTGAGTGCCTTTG CCAGTTATTTCAACAGCAAGGTTGGCATTCCTCAGGAGAATGCAGACCATGATGACTTTGAT GCTAATCAACTATTGAACAAGATCAATGAACCACCAAAGCCAGCTCCCAGACAAGTTTCCCT TCACAAGCCTCTGTGGCTTCTTCTCAACCTGTATCTTCTGAGATGTATAGGGATCCATTTGGA AATCCTTTTGCCTAAATTCTGAACTTGGTCTGCAGACCATCCAGAGGAATAAAAAGGTTGGC CTTAGTAGTCAAAAACAAAGCTGATAGCCAGACACGTTCTGATTTCTGCCCTTGTTCCAGCTT TGACGTATTATCTGTTGCCTTATTTCTCATTGCCTCTTCTACTTGTAAAATGCTTTTCACTTTCT TAAGTGTAAATGAAGTACAGTAGTTTCCCTACTGAACCCTGCCTCTTGTGTCCCTGGAACCTT CTAGAACACCTGCCTTCTACCCTCTGGTTGGGAGATGCAGCCACCACATCCCTTCATATCAT ACTGTTTTGAATAAATTTTCAAATCCTTATTGTTCAGAGTTGTTTGGGGGGTTCTGTTTCAGAGC ATAAAACCTAAAGGTTATAGTAGAACAAGGCACCTTCTTAAAAGAAATCTTGCTTCAGACCAT CAGTTACAGAGAATTTCTAAAGTAAAATTGAAGCAACTACAACTTCTCCTTAGACACTTTGGA TGATTCACAGACAGATCTGGAGCCTCTCTTCATTCTCAGTAATTGCTAGTCCCAAGAACTAGA ATTGCAAATGGGCACAACCTATATCCTTCCTGTGGAAGAGGGGCCACTCTCTTGAGCTGAA **GTTCCAGAAGAGCAGTTAATGTTCAAGAGAAATTGAACTCAACTCAGCAACAAAGGACTCTA** TTTTGAAGAGCAACATATCACAAAGCTAAATGTGATTGTGCCAAACACATTAGGTGCTTATTT GGGGTCATGCTAGGCCTTTATCAAGTAACTGGAAAACTTTTCTTGCAGCCACAATCTCAATGT CGTTAGTAGGAAGATAAGAGGGGAGAAAAAGCTGTAGAACAAATGTTTGGGGTTACCATTGA **AAATCTAATGTCTGCAATATTTTTCTCCTCACAACTTGGAAACGTTCCCAGTTCATTTTCAGTC** CTGTTGTGAGCACAGTTCTGAAGGGTTTATTATTGTCAAAATAAGTTTTGTTTTGTTTTA TGTTGGGTTTTTAATGTTGTCTCTTGACCCTTAATGCTCAGGTTCTTGTGGGAGTTAATCAGC CACATCCAACGTTACCTTGAGGGGGAAGAAGAGGGTGATGCTCAGAAGCTAAACAAGACAG GGGCCACATGACCCTCTATTGATTAGCCCCAAGTAGAAAGTCCTGTGGTTTTATGTTTAATG **GTAATAGTTGATCATATATGGCATAATTTTCTATCAGCTTCCTACTCAGTCACTATAAACACAG ACTTGAAATAGTACTTTAAATGTCCAAATACCTAAATGTGCTAAACTGGAGGTAACTATTTCTA** GGTAGTTGAATTTTTGAAAGTCATGATCAGCCACACACTGTTTTGTACATACTTATTTTCTCA TGCACTTTTCTGTATGCAAATAAAGCTATAAATTTACTCATTTCAATAAACTGGAGTGGCAGAA TAACAAAAGAAAATATAAATAATAAAAAAAAAAGCGGCC

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NAGCGTTACTCTGACAAAGACTTGTTTCTGTTGCATAGCAACTGAAGATAAGTATGC **AGAACTTAGCAAAGATTTTCAAGAGAAAATAATGTAAGGATTACGTAATTCGGGAAATAAAAA** CCTGAAGGGCAATTTCAACTAAGTATGGCGACTACCTGCTCACCATCTTTTGGAGACCGAAG **AAGAAATGAATGGTCTGAACAGACTTAGCCCGACAGAGCTGCCCAATAGAGAGGATGCCAA** TGTTAAATGACCACAAGAAATGTAACATCTCTTTTTAGGACACCCTAGATAAGAAATCTTCCA **ACTGGTCCTTCAGGAGGGTGTCTAAGCAGTCTTGGATGAGCTACATCAACAGGTCTGCAGA** CCACAGAGCCAGCAATCAGGGACCACATTCCCCGAGGTACAAAATTTAGAGGTTTCCCCTTT ATCAACAAGAGACCCAGGTGCCAGCATGTTACTACCAGATCCAGTTCTTCTTAGGACAGTGT GGCTCAAAGGGATGAGACCTTCCAGACACTGGTATCTGAGCATCTGTGGCCTGCCCCTGAG TTGTCAAGATAATTTCCTTATCTCTGAAGGAGTCCAGACAGGAATGCTTCCACTGCTGGGTG GGTGCTCGCCCCTCTTGCTCCTTAAGCGCCCGGCTCACCCCCTTGCTAGCACAGGGTGTCT TACACAGTTTATGGGACTTTTCTGTGAACTACCTGAGGGCAAGAACCATGTCCCACTCCCTC CTTGCTCCTCAAATATTTTATAGGAAAGCAGTCCACAGTCTCACACAGAGGAAACATGAAGTT TAAGTTCTAGCCCTATGAGGACAACACCTACTTTGATACCAGGCGTCACACTCTACAGCTNT GTTCAAGCTGAGGAGAGTTCTCTTTCCTTATCTGTGTGTTCCTCAGAACACAGAGTGGGACT CCTGCCAAGTCACCCTTGACTTACN

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>400 >401

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GAGCTGTCACTGATCCTGGCATCATCATCTTGATGTGTGACCCTATCCAAGTTTTGGTTT TCATGGAGTTAAAGGTTATTCCCCTTGCATTTTACAGCCCTGATTTTGCATTTGCCAACCTCT TTCAACTAAGTTCATGTCATCTTTTCCCATGGAGTTTCACTATGCATTGTCAGACTGCTGGTT AGGCCTCCAGACCAGGTCCATCTTCTCCCTTTTTCTCTAGCATGGCCTTGCCCTTTCCACAG TGCCCAAGCCCCAGGGTTGCCCTTTTGTTATTCTGCTGCCTAGAAGTTAGAACATTCAAGAA TTGAGGGTACACCTATAAACAGACTGGCAGATGATATAGTGCTTAATGTCTTGCCTCAGTTTG TCATTGTGTCAGAACATCCGAAAAAAGATAGGAGAAAAGTTGGAGTTTAGGGCATAATTTTCC ACTTAATCACATGAAGAATTTCAATTAGATATTTCTTCTACGTAGTATAGTTATAACTTTGCATT TTCAAGAACGAGATTAAAAAAGAAAATCTAAAATGGGATGATTCAGAGGAAGTAGAAATAAAC AAGGCTTTACAGAGAAAGTCCAGAGGAGTTTATTGGCACTCTGAGCTACAAAAAGGCTTGGA CCATCCCAGGAGAAGATGAGTCACCAGAGTTTTTGTGCCAGGGACAAAGCCTGTACACATAT CCTCTGTGGGAAAAACTGCTCTCAGAGTGTGCACTCTCCCCACAAGCCAGCGCTCAAACTG GAAAAAGTATCTCAATGTCCTGAATGTGGGAAAACCTTTAGCCGAAGTTCTTATCTTGTTCGG GTGAGCGCTCCAACCTCACTGCCCACCTACGAACTCACAGGGGAGAGGCCCTATCAGTG TGGGCAATGTGGGAAAAGCTTCAACCAGAGTTCCAGCCTCATTGTCCACCAGAGGACCCAT ACCGGGGAAAAGCCTTACCAGTGCATTGTCTGTGGAAAGAGATTCAACAACAGTTCCCAGTT CAGTGCTCACCGGCGCATCCACACTGGGGAGAGCCCATACAAGTGTGCAGTGTGTGGGAA AATCTTCAACAATAGCTCCCACTTCAGTGCCCACCGAAAAACCCACACTGGTGAAAAGCCTT ACAGGTGTTCTCACTGTGAGAGAGGCTTCACTAAGAACTCTGCCCTCACCCGTCATCAGACA GTACACATGAAAGCAGTACTCTCATCACAGGAAGGAAGAGATGCGTTATGAGTGTCTCGGTA **AACTGTCAGATTAAGTTCCTCAGGTCAGCATGTATGAGCTTTCTTCTGCTGTGGAGAGATCTA** GCCAGTCCCTGACTTTGCAACAGACCTACTGACTACTGGATCTTAAGACCCATGTCTAGGAC CAGGAGTCAGCATAAGGACGCTGACCTCTCCTGGCTGTGCCTGTGACTCCAGAGTCCTATC TTACTGTGACTTAAAGTTTGATGGAGAGAAAGCTGTAGGATCCATAAATTCTACCAGGAAACC AGGGTCTTCCTGTTCCTAGCACTGAGAATGGGCACCCAGTGGTCCAAGAACACTTTCTGGG CTAACATAGTCCTCACACAGGGCTGAGAAAGAAAGTGTCTCCTTTCCTGGAAAGCACATGTA GCTACCTTCAGGGCAGAAGACACTGCTCTTTGTAACCCAGCCACCACCAAAAAGCAAACAGA **AAGAAGGAAGGATGGTTAAGCCATTGGATAATACTGAATCTGTTTCCCTAAGTGACTTAACCT** TAGAGCAAGCACACCACGGTTAATTTTTTGTAAGATTTCTCCTTTTATTATTGCCCTCATC ATAGTTCCTGATTGTCTCTTAAAGTAAGTGGTTTATAGACATTACTATTTCTGATAATAATTTA CAAACTACTATAAACAAATTTATAAACATTACTAATTTCTGATGAAAATAAAGTTGTTTCTCCCT CCACAAANNNNNNNNNNNNNN >403

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Table 4

ATTCCTCTACATGAAGAGCTCCTTAGTCAGCTTCGAGATGTTAGGAAGCCTGATGGCTCGAC TGAACATGTTGGTCCCATCCTCGTGGGCTGGCTCCCTTGCCTCAGCTCCTATGATAGCTACT GCAGCAATCAAGTAGCCGCCAAAGCTCTGCTGGACCACAAAAAGCAAGATCACCGAGTCCA GGATTTCCTACAGCGATGTTTAGAATCCCCCTTTAGCCGCAAACTAGATCTCTGGAATTTCCT CGATATTCCAAGAAGCCGCCTGGTAAAATACCCTCTGCTTCTCCGAGAAATCTTGAGGCACA CACCAAATGATAATCCAGATCAGCAGCACTTGGAAGAAGCTATAAATATCATTCAGGGAATT GTGGCAGAAATCAACACCAAGACTGGTGAATCTGAATGCCGCTATTATAAAGAGCGGCTTCT TTACTTGGAAGAAGGCCAGAAAGACTCCCTGATCGACAGCTCTCGAGTCTTGTGTTGTCATG GTGAACTGAAGAACAATCGGGGCGTGAAACTGCATGTTTTCCTGTTCCAAGAAGTGCTTGTG **ATCACTCGAGCCGTCACCCACAATGAGCAGCTTTGCTACCAGCTGTACCGTCAGCCAATCC** CCGTGAAAGACCTCCTGCTGGAAGACCTCCAGGATGGAGAAGTGAGGCTGGGTGGCTCCC TGCGAGGGCATTCAGCAACAATGAGAGAATTAAAAACTTCTTCAGAGTCAGTTTCAAAAAT TAACTGTATTCGTCAAGCCAAAGAAACAGTTTTGTGTGCTGCCGGGCAAGCTGGGGTGCTTG **ACTCCGAGGGATCGTTCCTAAATCCCACCGGGGAGCAGAGAGCTACAGGGAGAAACAAA** ACTTGAGCAGATGGACCAATCGGACAGTGAGTCAGACTGTAGTATGGACACGAGTGAGGTC AGCCTCGACTGTGAGCGCATGGAACAGACAGACTCTTCCTGTGGAAACAGCAGGCACGGTG AAAGTAACGTCTGACAGAAGCATGTGCACTTCGGGAAGCAGGCCTGCATCTTACCTGTACA GTATTTGCATTCCACAGATGGAACGGTTTGGAGAAGCACTTTTTCATACTTTTGTGAAAGTAT ACATGTTGGCCCAGTCTCTCGTATCTGTACCTTTGTCCCTAGTACTGTAACTGCCAATCTGTC TGTGTAAGCTGGAATCTGTGGCAACTATTACCCTGTGTTGTATTTCCCAAGTGTCTGGATGG ACTTTCCCAGCTCTTAGATGTGGTAGCTAAAGGCACGGAATTTAGACGGCCTTGTAAATAGG ATGAAGTGAACTTGGTTTGATCTTACTCAACTAGAAAGCTTGAAAACATCCCTGGGGATTCTG AAGGCTTAATTTTGCAAAGGAGGATGCATTGTCTGAACTTTGCAACTTCATCCAGTGCAAGTT TGATGCAAGAATGTATTAGGACATAAAATAGAGGCTGACCTTAAAAGGGCCAGGACAGAAGC GGCTGCCAGCTCTGAATCTTTAACTGAAATGCACATGGCACCAGGAGGTGTCTCTCATAGTT **GGTTGCTAGCCTAAAACATCAGAATAGAACCCAAAGGGCTTAGGAAGGCCTGCCAGGATAA** CAAGAAGGCCCTGTATTCATTGTGTTTCATCTGCCTAGGCCTACTCATTATTTTAGAGAATGA ATGAAGCAACAAGGAAGAGACCATGACTCTATCGATGACACTGTTTATAGAAACACAGGA GAGGAAGAATTTGGAATGAAAAGCACTTCGTCAGAACCTTCTGTGGGAGCCATTGAGAGAAA AGCATGGTCCAGTGCCTTCTGAGAAAGGCCAGAGCTTTGGGCTTTCCTGCTCTTTTGG GTCGTCAATTTGCCATCTCTGGTTCTGTGCTATAATCAGAATTGTAATTATGTTCTCCAGAGG CCAATTTCATTAACTCTGATTAATTAGAATCAGCTAGCCAGATTAGTAACCTCTTTGTCCAGC CTTGATTTACAGTGCAGGGTAAAGTGCAGACCTTAAAAACAGCTAAGTACCTAGAAGAGCTC CCTGCAAGTGTAAATATTAAGGATGACCTGTGCAAAATTATACCCACACCAGCACTAGTGGT CAGTAAATGCATTGATGTCATTTTATTATGTACATATATCATGTGCATTCAAGCTGTGTGACAA **GATATATCAATATAAAAACAAGGTATATATTTTTTTTTGAAAACAAGGATATTGTGATCA** ATTITACCCTGTAAAACATATTTCTGTATTTATAGGTCTTAAACATGATGAATTTTTTCTATTAC AAGTTTATTTAAAACTGCTTTCTCAAGTCGTTATTGATACAGCAAGTGAACCTGCTGCAGACA GGCGCCATCAGCCACTTTTAGAAGCCATCAGCCAGTGTGTTGGGAAAAGAGGTTTGTCAAG **ИИИИИИИИИИИИИИИИИИИИИИ** >422

NNNNNNGCANCNNTTNGAAGTGTCCCCTCCTACTTCTTGCTGCCTCACGGTTGCT GTTGCAGACCCAGGAGTCTCTGAAGGCTTCCGCGGCTTTGGGGCCGGTTGTGAGATGCCA GCCAGAGGCCGCTGCCCGGACTGCGGCTCCACGGAGCTGGTGGAAGACTCGCACTATTCG CAGAGCCAGCTGGTGTCCCGACTGCGGCTGCGTGGTCACCGAGGGGGGTCCTTACCACT **ACCTTCAGCGACGAGGCAATCTCCGAGAGGTAACATATTCCCGAAGCACAGGGGAAAACG AACAAGTTAGTCGCAGCCAGCAACGAGGTCTCCGGCGAGTGAGAGACCTTTGTCGAGTTCT GCAGTTGCCACCAACATTTGAGGATACCGCGGTTGCCTACTACCAACAGGCATATCGGCAC**

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CACTCAGATTTCAGTTCTGTTAAATGTGAAAGAGGGGATCGACTGACGTTCATTGCTGTTCCAT AACTAGTGTAAAATATGTATATGTTTATCTTTATTTTTATAATATGCAAATACATTTAAATTTATA CAGTTTGAAGCTTCTAGCGTTAGTTCACACTGGGTGCAATATTCTGCATGAGAACTGTGCCA AGATGGGGCTGATTTCTTATTTTAGTATAAGACTTTTTTGTTTTTTCTTTATTCTTTAATCCTCT TCACATTAAAAAAAAAAATCTCTCTGTTAGCCCATGGATTAAGTGTTGGTTCATAGAGATTG CCAATAATCAGAAAGAACCTTAAATGTGCATTTAAGACAGTGTCCCTTCCCTTCTTTTCAATG AAGGTCCCTGGCCTTATTATTAAATTCAATTCTGGGCACGCTGTGGTGGGGGAAAACTCCTT TTGGCTCTTTCCCAACCGGTGTTTATAAAGTGCGCTGGGGCCAAAGATGTGTCGGGCACAC TTCGGGGCCAAAAGAAGGACCAAAAAGGTCCATTGCAAACATTTGGAGTCTTAAAGGGGTAA GAGCACTTTGCAAACATATTACTTATTAGCAGAGCTCTTTGTAGACCTTCCACATCTGGCTGT CAGATCTTAAGGTTGTGAATTTAGGCTCCAGTTATATTCACTGGAGAGCATAATCCCACACG GGTTATTTATAAATACAGAGCCTCTGATTGGACGGTCTCCTGCCAAGAACTAGTAATACCCTT TTTAATTGGGCCAAACAGCATATGCTACAGTAGTAACATGTTTTTCGGAGAGTGTAAAAAACT GCCTCAGACAAGAAGAGTGAGTTGCTGGTACTCGCTACTCTTTTACTTCTTTTTGTAAAGTATT GACTCTTGGAAGGCTACAGTATACAAAGTCTCAACATGTTTTTTAAAAGAAATAAGGAGCAAG CGACTGCCCTGCTAGAAATCACAAACCGATTTTTGTAGAATATTTTGTGCCCCAGGCATTAAT TTCACTGACTCCAGAACCTGCAGTTCAGAGAATGATTTCTTATGATGATAAAAATCGAATGGG ATCAGACGATGTTTGCATTTTTTTAATACTTGAATAGGACACCTCAAGTTTGAGATTTCATTTT TGCGCGTCTCCGTGTGTGTGTGTGCATGTGTGTAAAACTGAATGGTCACATTTAATTGCT TTTTGGACCATTGAATAGTTGGGAAGTAAGAATTTTTTAATTGGCATGAGACGGTTCCTCAAC TGTTAAATTAACCAACTTTGACCTGTCTTTAGAAAAAGGCTTATTTGTATGATTTTGGGCTAAC TCCCCGGGGACCATATTAAATGACAAAAATGCTCCTTTGGGTGACACACCCTACAAAGTATT TGCTGTTACGAACATAAACGCCCACATTCTTAATATCTAATATTTTTGACCAGTGATGTTTTAT GCTGTCATCTGAACCCTAGAGAAGCAGTGTCAGAGGAAACCTTGGTGTCACATGTGTCTTAG CAAAAGGGTTACCATGATCGAGGGTCATGTGACCAAAAGATGCTCCAGAGAAGCTTGAGAAT TTGTTTCAAGTTGGGAGGAGGGTTGGAGATACAAAAATCACTCTGCTCTACAGGACTCTTCA GCTGTCTATGCAAGAAATTCCGTTTTCTCTTTCAGCACCTGGAAAGACACAGCAGCCCACCG AGGCGATAGGTGATTCACTAAGCACAAGAGGAATGTTTTCTAAGCAAGGCGTCCCTTGCCTC TCAAACAAATGCCCTCCAAGTTTGTTAGGGTTTCTATTCCTGCAACTTGTGGTATCAAAACCA GGGTTTGGTGTAATTCCTGATGGGGTGCGTGTTGTTTTTCATGCCATGGTTTGTGAATTTTAA TTGTGGTTTCCCATTTCGTTGTTGTAACTGGGCAGAAATTAAAAAAGAAAAATCAATAAAAAATA

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TGCACTGCTGAAGAGTCACTATGAGCAAAATAAAACAAATAAGACTCAAACTGCTCAAAGTG ACGGGTTCTTGGTTGTCTCTGCTGAGCACGCTGTGTCAATGGAGATGGCCTCTGCTGACTC AGATGAAGACCCAAGGCATAAGGTTGGGAAAACACCTCATTTGACCTTGCCAGCTGACCTTC AAACCCTGCATTTGAACCGACCAACATTAAGTCCAGAGAGTAAACTTGAATGGAATAACGAC ATTCCAGAAGTTAATCATTTGAATTCTGAACACTGGAGAAAAACCGAAAAATGGACGGGGCA TGAAGAGACTAATCATCTGGAAACCGATTTCAGTGGCGATGGCATGACAGAGCTAGAGCTC GGGCCCAGCCCCAGGCTGCAGCCCATTCGCAGGCACCCGAAAGAACTTCCCCAGTATGGT GGTCCTGGAAAGGACATTTTTGAAGATCAACTATATCTTCCTGTGCATTCCGATGGAATTTCA GTTCATCAGATGTTCACCATGGCCACCGCAGAACACCGAAGTAATTCCAGCATAGCGGGGA AGATGTTGACCAAGGTGGAGAAGAATCACGAAAAGGAGAAGTCACAGCACCTAGAAGGCAG CGCCTCCTCTCACTCTCTCTGATTAGATGAAACTGTTACCTTACCCTAAACACAGTATTTC TTTTTAACTTTTTATTTGTAAACTAATAAAGGTAATCACAGCCACCAACATTCCAAGCTACCC TGGGTACCTTTGTGCAGTAGAAGCTAGTGAGCATGTGAGCAAGCGGTGTGCACACGGAGAC TTGGTTTTGATTTTTTGCTTGTTTGTTTTGTACTAAAACAGTATTATCTTTTGAATATCGT AGGGACATAAGTATACATGTTATCCAATCAAGATGGCTATAATGGGCTTTCTCAGAGATAA AACTTGACCCCGTGTCAAATTGACATCACACTCTGCATGTCTGCGTAATGAAGGTACGATG CAACTATAACCAGTGCAATATGACACTGACACTATATTAAATTCAATAATACNN >431

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TCTTGCTGAGAGACTTATTTATAATANN

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Table 4

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NNGAGTCGACCCACGCGTCTGTTTTTTTTTTTGCTGATAAGAATTCTTTTATGTTATT CCAATAAAAAATACATTCATACAGAAATATAACAATCTTGCAAAAAACAATTTCAAATAAAATC TTGTAAAACAAAATTTTACAAAAATCTTACAAAGATTCTTTAGATAACAGGGTGCTTCCAAAAA AAAAAAAAAGAAATTTCACTAATAGAAATTTTTTTTTAATTTCAAGCAAAAAGTTTCTGCTTGA TTGAGGCTCAGTTATCACCTGAACAGAATGTACTTCTTTATGTACGTGCTAATTATGAAAATC ACAGGCATTGACAGGTACGGTACCCAGCCCACCCAGGCAAACAGCTCCGACATGTTTCGT TTGCTTAATGGAATTGTTATGGCTAAGCACATAGAAGGCCAAAAAAGGAGTTTTCCAAACCCA GCAAATCAAGTGCTTGGATTCTGAACTGCCAAAAGAAAACTGCACTTCCCCTCTTAAGTAAAA GTGTGTATATATATAAAGCAAAGAGCCACACCCACAAGCCAGCAGCTGGGGTGAAAATAT CAGCTGTTCCACGCCGTGGGTATTGGCCCATTCGCGGGGGAAATTTACTCCTTGGGGAAAA ACTGGGAGGGATTCTACTTGGCTGGGGGAAAAATTGGGTTTTCTTCTTGGCCTTTAAAAGGT GTTTCTTTCCAAAAGGTTNCCCGTTGGGGTTAGGCNTACTCTTTGGGGGTTNGGTCCNNNNN NN >445

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>453 >454

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>460

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>463 >464

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Table 4

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CTCCCAAAAGCAAGCTTGCTGAAGGGGAGGAAGAAAAGCCAGAACCAGACATAAGTTCAGA GGAATCTGTCTCCACTGTAGAAGAACAAGAGAATGAAACTCCACCTGCTACTTCGAGTGAGG CTTCCTGGGCTACCCTTTCTGCCAGCCAGCTAGCCAGGGCCCAGAAACAACACCGATGGC TTCTTCCCCACGTCCCAAGATGGATGCAATCTTAACTGAGGCCATTAAGGCATGCTTCCAGA AGAGTGGTGCATCAGTGGTTGCTATTCGAAAATACATCATCCATAAGTATCCTTCTCTGGAG CTGGAGAGAGGGGTTATCTCCTTAAACAAGCACTGAAAAGAGAATTAAATAGAGGAGTCAT CAAACAGGTTAAAGGAAAAGGTGCTTCTGGAAGTTTTGTTGTGGTTCAGAAATCAAGAAAAA CACCTCAGAAATCCAGAAACAGAAAGAATAGGAGCTCTGCAGTGGATCCAGAACCACAAGTA AAATTGGAGGATGTCCTCCCACTGGCCTTTACTCGCCTTTGTGAACCTAAAGAAGCTTCCTA CAGTCTCATCAGGAAATATGTGTCTCAGTATTATCCTAAGCTTAGAGTGGACATCAGGCCTC **AGCTGTTGAAGAACGCTCTGCAGAGAGCAGTAGAGAGGGGCCAGTTAGAACAGATAACTGG** CAAAGGTGCTTCGGGGACATTCCAGCTGAAGAAATCAGGGGAGAAACCCCTGCTTGGTGGA TACCACTGCTCTGAAGAAGTATGTCCTAGAGAATCACCCAGGAACCAATTCTAACTATCAAAT GGAAAGGGTTCAGTGGCACCTTCCAGCTCTGTTTTCCCTATTATCCCAGCCCAGGAGTTCTG TTTCCGAAGAAGAGCCAGATGATTCTAGAGATGAGGATGAAGATGAAGATGAGTCATCAGA AGAAGACTCTGAGGATGAAGAGCCGCCACCTAAGAGAAGGTTGCAGAAGAAAACCCCAGCC AAGTCCCCAGGGAAGGCCGCATCTGTGAAGCAGAGAGGGTCCAAACCTGCACCTAAAGTCT CAGCTGCCCAGCGGGGGAAAGCTAGGCCCTTGCCTAAGAAAGCACCTCCTAAGGCCAAAAC GCCTGCCAAGAAGACCAGACCCTCATCCACAGTCATCAAGAAACCTAGTGGTGGCTCCTCA **AAGAAGCCTGCAACCAGTGCAAGAAAGGAAGTAAAATTGCCGGGCAAGGGCAAATCCACCA** TGAAGAAGTCTTTCAGAGTGAAAAAGTAAATTTTATAGGAAAAAAGGGTATCATGATGAAATT CAAAATCTTATTTTCTAAGCACTTTTGATATCAAGCAAGTGGCTTCCTTTTTGAGATATTAAAA **CNNACN**

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TTTTTGGAGGATACGGATATGAAATCTCTAGAGAACAAAAGTTTGGAAATGACCTTCATCCCT **ACCATTGAAGATACTGGAAAAGCTCTTGTTTGTCAGGCTAAGTTACATATTGATGACATGGAA** TTCGAACCCAAACAAAGGCAGAGTACGCAAACACTTTATGTCAATGTTGCCCCCAGAGATAC **AACCGTCTTGGTCAGCCCTTCCTCCATCCTGGAGGAAGGCAGTTCTGTGAATATGACATGCT** ACAGCCTCTTTCTGAGAATGCAACTCTCACCTTAATTTCTACAAAAATGGAAGATTCTGGGGT **AAGTTACTCCAAAAGACATAAAACTTACAGCTTTTCCTTCTGAGAGTGTCAAAGAAGGAGGACA** CTGTCATCATCTTGTACATGTGGAAATGTTCCAGAAACATGGATAATCCTGAAGAAAAAAG CGGAGACAGGACACAGTACTAAAATCTATAGATGGCGCCTATACCATCCGAAAGGCCCA GTTGAAGGATGCGGGAGTATATGAATGTGAATCTAAAAACAAAGTTGGCTCACAATTAAGAA GTTTAACACTTGATGTTCAAGGAAGAGAAAACAACAAGACTATTTTTCTCCTGAGCTTCTCG TGCTCTATTTTGCATCCTCCTTAATAATACCTGCCATTGGAATGATAATTTACTTTGCAAGAAA AGCCAACATGAAGGGGTCATATAGTCTTGTAGAAGCACAGAAATCAAAAGTGTAGCTAATGC TTGATATGTTCAACTGGAGACACTATTTATCTGTGCAAATCCTTGATACTGCTCATCATTCCTT CATCTATGTCCCTTGCTGTGAGCAAGAAGTCAAAGTAAAACTTGCTGCCTGAAGAACAGTAA CTGCCATCAAGATGAGAGAACTGGAGGAGTTCCTTGATCTGTATATACAATAACATAATTTGT ACATATGTAAAATAAAATTATGCCATAGCAAGATTGCTTAAAATAGCAACACTCTATATTTAGA TTGTTAAAATAACTAGTGTTGCTTGGACTATTATAATTTAATGCATGTTAGGAAAATTTCACAT TAATATTTGCTGACAGCTGACCTTTGTCATCTTTCTTCTATTTTATTCCCTTTCACAAAATTTTA TTCCTATATAGTTTATTGACAATAATTTCAGGTTTTGTAAAGATGCCGGGTTTTATATTTTATA GACAAATAATAAGCAAAGGGAGCACTGGGTTGACTTTCAGGTACTAAATACCTCAACCTATG GTATAATGGTTGACTGGGTTTCTCTGTATAGTACTGGCATGGTACGGAGATGTTTCACGAAG TTTGTTCATCAGACTCCTGTGCAACTTTCCCAATGTGGCCTAAAAATGCAACTTCTTTTATTT AAAAAAAAAAAACCACTACAGGAGAAAACACCCCAAAAATAAGACAAAACAACAGAGGAAG CCGAAAGTGACACGCAACACACAGCCATATGACAAAGAACGACTCCCCACTCAGAGGA CAACCATAAATAACACCACAGCCCAGCCACATCAGATAAAGCAGCCAGATAACGAACAACCC ATCAACATGACAATGCGACCAAACGACCACCATGCGGGAGAAACAGCAGCACCACTTCACG AGAATTGCAACCAGCAAACAACAAGCCACCGACACGACGAACACACACACAAATGACAAGA **AAGCCCAGACCTCGAAACNN** >477

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Table 4

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CGTCCGTGCCAAGTCGCTGTTTCCTGGGACAAGAGGGAGCCTCACTGAAACGAACT CCGGTCTCAGGGGACAGAATCCTGAAACCCTGGCTCTGGGGTCCGGGGCAGGGGTGCGCT GCCTCAGGACAGACGGGAAACTGAGGTCCAGAGCCGGACATCCACCGCCTGCGGAGGGA ACGAGAACGCGGCGCTCCTGCCTTGCGGGCCGAGCGGCCAGAGCCGCCTCCTCCCG CCCCCGCGCTAGATCCCCCGCCCCGTCTTTGCCCTCGCGACGCCGCCACCTCCGGAAC **AAGCCATGGTGGCGGCGACGGTGGCAGCGCGTGGCTGCTCCTGTGGGCTGCGGCCTGC** GCGCAGCAGGAGCAGGACTTCTACGACTTCAAGGCGGTCAACATCCGGGGCAAACTGGTG TCGCTGGAGAAGTACCGCGGATCGGTGTCCCTGGTGGTGAATGTGGCCAGCGAGTGCGGC TTCACAGACCAGCACTACCGAGCCCTGCAGCAGCTGCAGCGAGACCTGGGCCCCCACCAC TTCAACGTGCTCGCCTTCCCCTGCAACCAGTTTGGCCAACAGGAGCCTGACAGCAACAAGG AGATTGAGAGCTTTGCCCGCCGCACCTACAGTGTCTCATTCCCCATGTTTAGCAAGATTGCA GTCACCGGTACTGGTGCCCATCCTGCCTTCAAGTACCTGGCCCAGACTTCTGGGAAGGAGC CCACCTGGAACTTCTGGAAGTACCTAGTAGCCCCAGATGGAAAGGTGGTAGGGGCTTGGGA CCCAACTGTGTCAGTGGAGGAGGTCAGACCCCAGATCACAGCGCTCGTGAGGAAGCTCATC CTACTGAAGCGAGAAGACTTATAACCACCGCGTCTCCTCCTCCACCACCTCATCCCGCCCAC CTGTGTGGGGCTGACCAATGCAAACTCAAATGGTGCTTCAAAGGGAGACCCACTGACTC TCCTTCCTTTACTCTTATGCCATTGGTCCCATCATTCTTGTGGGGGAAAAATTCTAGTATTTTG ATTATTTGAATCTTACAGCAACAAATAGGAACTCCTGGCCAATGAGAGCTCTTGACCAGTGAA TCACCAGCCGATACGAACGTCTTGCCAACAAAAATGTGTGGCAAATAGAAGTATATCAAGCA ATAATCTCCCACCCAAGGCTTCTGTAAACTGGGACCAATGATTACCTCATAGGGCTGTTGTG AATGAACATTTTTTGCATATAAAACAAAAAATAACTTGTTATCAATAAAAACTTGCATCCAACA TGAATTTCCAGCCGATGATAATCCAGGCCAAAGGTTTAGTTGTTATTTCCTCTGTATTATT TTCTTCATTACAAAAGAAATGCAAGTTCATTGTAACAATCCAAACAATACCTCACGATATAAAA >486

ACTCCGCTGCCTTTGCCGCCACCATGCCCAAAACGATCAGTGTGCGTGTGACCACCATGGA TGCAGAGCTGGAGTTTGCCATCCAGCCCAACACCACGGGAAGCAGCTATTTGACCAGGTG GTGAAAACTATTGGCTTGAGGGAAGTTTGGTTCTTTGGTCTGCAGTACCAGGACACTAAAGG CCCCTGCTCTTTAAGTTCCGTGCCAAGTTCTACCCTGAGGATGTCCCGAGGAATTGATTCA GGACATCACTCAGCGCCTGTTCTTTCTGCAAGTGAAAGAGGGCATTCTCAATGATGATATTT ACTGCCGCCTGAGACCGCTGTGCTGCTGCCCTCGTATGCTGTCCAGTCTAAGTATGGCGA CTTCAATAAGGAAGTGCATAAGTCTGGCTACCTGGCCGGAGACAAGTTGCTCCCGCAGAGA GTCCTGGAACAGCACAACTCAACAAGGACCAGTGGGAGGAGCGGATCCAGGTGTGGCAT GAGGAACACCGTGGCATGCTCAGGGAGGATGCTGTCCTGGAATATCTGAAGATTGCTCAAG **ATCTGGAGATGTATGGTGTGAACTACTTCAGCATCAAGAACAAGAAAGGCTCAGAGCTGTGG** CTGGGGGTGGATGCCCTGGGTCTCAACATCTATGAGCAGAATGACAGACTAACTCCCAAGA TAGGCTTCCCCTGGAGTGAAATCAGGAACATCTCTTTCAATGATAAGAAATTTGTCATCAAGC CCATTGACAAAAAGCCCCGGACTTCGTCTTCTATGCTCCCCGGCTGCGGATTAACAAGCG GATCTTGGCCTTGTGCATGGGGAACCATGAACTATACATGCGCCGTCGCAAGCCTGATACC ATTGAGGTGCAGCAGATGAAGGCACAGGCCCGGGAGGAAGCACCAGAAGCAGATGGAG CGTGCTATGCTGGAAAATGAGAAGAAGAAGCGTGAAATGGCAGAGAAGGAGAAAGAGAAGA TTGAACGGGAGAAGGAGCTGATGGAGAGCTGAAGCAGATCGAGGAACAGACTAAGA AGGCTCAGCAAGAACTGGAAGAACAGACCCGTAGGGCTCTGGAACTTGAGCAGGAACGGA AGCGTGCCCAGAGCGAGGCTGAAAAGCTGGCCAAGGAGCGTCAAGAAGCTGAAGAGGCCA AGGAGGCCTTGCTGCAGGCCTCCCGGGACCAGAAAAAGACTCAGGAACAGCTGGCCTTGG AAATGGCAGAGCTGACAGCTCGAATCTCCCAGCTGGAGATGGCCCGACAGAAGAAGGAGA GTGAGGCTGTGGAGTGGCAGCAGAAGGCCCAGATGGTACAGGAAGACTTGGAGAAGACCC GTGCTGAGCTGAAGACTGCCATGAGTACACCTCATGTGGCAGAGCCTGCTGAGAATGAGCA GGATGAGCAGGATGAGAATGGGGCAGAGGCTAGTGCTGACCTACGGGCTGATGCTATGGC CAAGGACCGCAGTGAGGAGGAACGTACCACTGAGGCAGAAGAATGAGCGTGTGCAGAA GCACCTGAAGGCCCTCACTTCGGAGCTGGCCAATGCCAGAGATGAGTCCAAGAAGACTGCC **AATGACATGATCCATGCTGAGAACATGCGACTGGGCCGAGACAAATACAAGACCCTGCGCC** AGATCCGGCAGGGCAACACCAAGCAGCGCATTGACGAATTTGAGTCTATGTAATGGGCACC CAGCCTCTAGGGACCCCTCCTCCCTTTTTCCTTGTCCCCACACTCCTACACCTAACTCACCT **AACTCATACTGTGCTGGAGCCACTAACTAGAGCAGCCCTGGAGTCATGCCAAGCATTTAATG** TCACTATGGTGCCAATGGAACCTCCTTTCTCTCTCTGTTCCATTGAATCTGTATGGCTAGAA TATCCTACTTCTCCAGCCTAGAGGTACTTTCCACTTGATTTTGCAAATGCCCTTACACTTACT CACTGTCTTCTCAGGGTCCTGAGATTTACACGGTTGGAGTGTTATGCGGTCTAGGGAATGA GACAGGACCTAGGATATCTTCTCCAGGATGTCAACTGACCTAAAATTTGCCCTCCCATCCCG TTTAGAGTTATTTAGGCTTTGTAACGATTGGGGGATAAAAAGATGTTCAGTCATTTTTGTTTCT ACCTCCCAGATCGGATCTGTTGCAAACTCAGCCTCAATAAGCCTTGTCGTTGACTTTAGGGA CTCAATTTCTCCCCAGGGTGGATGGGGGAAATGGTGCCTTCAAGACCTTCACCAAACATACT AGAAGGCCATTCTATTGTGCCAAGGCTGAGTAGAAGATCCTACCCCAATTCCTTG AGATCTGCAGTCACTTCGTGGGATCTGCCCCTCCCTGCTTCAATACCCAAATCCTCTCCAGC TATAACAGTAGGGATGAGTACCCAAAAGCTCAGCCAGCCCCATCAGGACTCTTGTGAAAAGA GAGGATATGTTCACACCTAGCGTCAGTATTTTCCCTGCTAGGGGTTTTAGGTCTCTTCCCCT CTCAGAGCTACTTGGGCCATAGCTCCTGCTCCACAGCCATCCCAGCCTTGGCATCTAGAGC TTGATGCCAGTAGGCTCAACTAGGGAGTGAGTGCAAAAAGCTGAGTATGGTGAGAAAGCC TGTGCCCTGATCCAAGTTTACTCAACCCTCTCAGGTGACCAAAATCCCCTTCTCATCACTCC CCTCCAAAGAGGTGACTGGGCCCTGCCTCTGTTTGACAAACCTCTAACCCAGGTCTTGACAC CAGCTGTTCTGTCCCTTGGAGCTGTAAACCAGAGAGCTGCTGGGGGATTCTGGCCTAGTCCC TTCCACACCCCACCCTTGCTCTCAACCCAGGAGCATCCACCTCCTTCTCTGTCTCATGTG TGCTCTTCTTCTACAGTATTATGTACTCTACTGATATCTAAATATTGATTTCTGCCTTCCT TGCTAATGCACCATTAGAAGATATTAGTCTTGGGGCAGGATGATTTTGGCCTCATTACTTTAC CACCCCCACACCTGGAAAGCATATACTATATTACAAAATGACATTTTTGCCAAAATTATTAATAT AAGAAGCTTTCAGTATTAGTGATGTCATCTGTCACTATAGGTCATACAATCCATTCTTAAAGTA CTTGTTATTGTTTTTATTACTGTTTGTCTTCTCCCCAGGGTTCAGTCCTCAAGGGGCCAT

NCGTCCGTCTCACCCGAGCTGTCCGCACTCCAAAGAACTGGGTACTCAACACTGAG CAGATCTGTTCTTTGAGCTAAAAACCATGTGCTGTACCAAGAGTTTGCTCCTGGCTGCTTTGA GGATACACAGACCGTATTCTTCATCCTAAATTTATTGTGGGCTTCACACGGCAGCTGGCCAA TGAAGGCTGTGACATCAATGCTATCATCTTTCACACAAAGAAAAAGTTGTCTGTGTGCGCAAA TCCAAAACAGACTTGGGTGAAATATATTGTGCGTCTCCTCAGTAAAAAAGTCAAGAACATGTA AAAACTGTGGCTTTTCTGGAATGGAATTGGACATAGCCCAAGAACAGAACAGAACCTTGCTGG GGTTGGAGGTTTCACTTGCACATCATGGAGGGTTTAGTGCTTATCTAATTTGTGCCTCACTG GACTTGTCCAATTAATGAAGTTGATTCATATTGCATCATAGTTTGCTTTGTTTAAGCATCACAT TAAAGTTAAACTGTATTTATGTTATTTATAGCTGTAGGTTTTCTGTGTTTAGCTATTTAATACT AATTTTCCATAAGCTATTTTGGTTTAGTGCAAAGTATAAAATTATATTTGGGGGGGAATAAGAT ATATTGTTTTGTCTCCTAAATTGTTGTAATTGCATTATAAAATAAGAAAAATATTAATAAGACAA NNNNTAATGAAGACTAAGAAAGTTGAAAAAAAAAAAACTATTTTTGAAAAAGTTAAAAAAGGGGGG NNNNN

>489 NAACTGGACCTTGAANCGAATACCGTTAATNATGTCCTTGGGTCCCTCCCAATAATA ACTCCAANCCCAACCAAGAAGAATGANTAAAAATGAATCAAATCCTTTTCCTGGCAACCTTG **ATTTCAATCCCAAAACCCATCTCTGTTTAAATATTGATGGAAAACAGAACCTGTGAACTCCGA** TGCCCACCGTCGAAACCAAAAATTTCATTCTGGAAATTGCAAATGGATACTCTGACGGCCGA CCGAAACCTGGTGAAGCCCTTTGGGCGATTGGTGATCACCTCTAGATCCGTGAAAGCTGGC GTAACAGCAGCAGGTATTTCTTCTGGTAAATGAGAGCCTTTCGAAAACTTTCTGCCCTCAAGT **ATTTACCATAAATTCTCTTTAAAGTGACATGTTCAGAATCAGGGCTCAGAGTTTGAAGTAAAG** AGTCATTTCTTAGTTCAGCTTTCAGTTTGTATACTTCAGCCTCTGCCCTTTTCAAAGATTTCTG GAGAGTCAATTTTCTCTGTTCCATACTTCTTTTTCAGAGGCAATGATGGCTTCAATGTTGGC GATATGCCCTGTCAGCTCAGCATTTTGTCTCAGTAGTCTTTCAGTCAATGAGCCACAAGAAG TACTTGGGGACACCAAGCTGGGCTCTTCACCTTGCTGGCCAGTTAATTTCTGTAGTTGTAAA ATAATTTCATCAATATTTTCCTGAACCCAAATGAAATCTTCATCATCTGCTGTTTTCAAACTGTA GTCTCTCAGAGGCTTTCTGGGGTAGAACCTGTAGTTTTGAAGCTACACATTGAAGCTTTTGT **AGTITGATTCTTTTGTTTCTCCTTCTATTTTCTGTTGAAGAACCCAATTTCTAGTTCTATCACTG** GTTAAGCTCCACGTGGTTGGCTCATTAAGGTTCTGATACAGAATTCTTCTACTTTCTCGTTTT TCTTCTCGTTCTAGTTCTTGCTTCTGGAATTCCTGCATGATTCCTTGTAGTCGCTGTCCTTCA AGGTCTAACTTATAAACTTGTTGTCTTTTCTCTTCCAGCTGGCGCTGAAGATCTTCCACTTTG TTCCTGTGAACCTGCCTATCTTTTCCATTTGCTGTCGTGTTTGCAAAGAATCCAGTTTATATT

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CCGGGCAGGTACGCGGGGTGGCGGCGTTGGGTTGAGCGGGCTTTTTGGAAGTTT GTGGCGGAGTTCTGTGATATGAGCAACAATGGACCAGAAGATTTTATCTCTAGCAGCAGAAA AAACAGCAGACAAACTGCAAGAATTTCTTGGGCAGGGCCTGGGGAATGCTTTTTTATCTCAT ATTAGTGCCTGTGATGGCATCTTTCATCTAACACGTGCTTTTGAAGATGATGATATCACGCAC GTTGAAGGAAGTGTAGATCCTATTCGAGATATAGAAATAATACATGAAGAGCTTCAGCTTAAA GATGAGGAAATGATTGGGCCCATTATAGATAAACTAGAAAAGGTGGCTGTGAGAGGAGGAG **ATAAAAAACTAAAACCTGAATATGATATAATGTGCAAAGTAAAATCCTGGGTTATAGATCAAAA** GAAACCTGTTCGCTTCTATCATGATTGGAATGACAAAGAGATTGAAGTGTTGAATAAACACTT **ATTTTTGACTTCAAAACCAATGGTCTACTTGGTTAATCTTTCTGAAAAAGACTACATTAGAAAG** AAAAACAAATGGTTGATAAAAAATTAAAGAGTGGGTGGACAAGTATGACCCAGGTGCTTTGGT CATTCCTTTTAGTGGGGCCTTGGAACTCAAGTTGCAAGAATTGAGTGCTGAGGAGAGACAGA **AGTATCTGGAAGCGAACATGACACAAAGTGCTTTGCCAAAGATCATTAAGGCTGGGTTTGCA** GAAAGGGACTAAGGCTCCTCAGGCTGCAGGAAAGATTCACACAGATTTTGAAAAGGGATTCA TTATGGCTGAAGTAATGAAATACGAAGATTTTAAAGAGGAAGGTTCTGAAAATGCAGTCAAG GCTGCTGGAAAGTACAGACAACAAGGCAGAAATTATATTGTTGAAGATGGAGATATTATCTTC TTCAAATTTAAAAACTCAAAAACCGAAGAAGAACATAAATTTTAGTTATGCTCAGATAACATAC AACTTCAAAAGGCATCTGATTTTTACACATTAATTTCTGAAACCAATGCGACAAATAAGTCGG GACAATGGGAATCTTGACAACAAATATTTTTTGGTTGACACTCAATATTGGTTCCCCCCCTCA TAAATGGGTTCATAATGTGACCGGTTGGTTCCGTTTTAACCCTCCATTGGAGTTTCGGACCTT ATCCGAAACTATCCTTGTTCAGCGACATGAGAGAACGGGCCTGCTCAAAGGTTGCCGTTCAA **TGAAAAAGGGGANNNN**

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GGTTCTGAGGCCTTGCTTCTCTTTACTTTTCCACTCTAGGCCACGATGCCGCAGTACGCGGG GGGGTGAAGAAGGGGCCGGCCTTCAAGCAACAGCGACGCAAGATGGCAGCCACCACGGG CTCGGGAGTAAAAGTCCCTCGCAATTTCCGACTGTTGGAAGAACTCGAAGAAGGCCAGAAA GGAGTAGGAGATGGCACAGTTAGCTGGGGTCTAGAAGATGACGAAGACATGACACTTACAA GATGGACAGGGATGATAATTGGGCCTCCAAGAACAATTTATGAAAAACCGAATATACAGCCTT AAAATAGAATGTGGACCTAAATACCCAGAAGCACCCCCCTTTGTAAGATTTGTAACAAAAATT **AATATGAATGGAGTAAATAGTTCTAATGGAGTGGTGGACCCAAGAGCCATATCAGTGCTAGC** AAAATGGCAGAATTCATATAGCATCAAAGTTGTCCTGCAAGAGCTTCGGCGCCTAATGATGT CTAAAGAAAATATGAAACTCCCTCAGCCGCCCGAAGGACAGTGTTACAGCAATTAATCAAAA AGAAAAACCACAGGCCCTTCCCCTTCCCCCAATTCGATTTAATCAGTCTTCATTTTCCACAG TAGTAAATTTTCTAGATACGTCTTGTAGACCTCAAAGTACGGGGGGAAAATCCACAAGACAG **AATAGCCAGATCTCAGAGGAGCCTGGCTAAGCAAAACCCTGCAGAACGGCTGCCTAATTTA** CAGCAACCATGAGTACAAATGGTGATGATCATCAGGTCAAGGATAGTCTGGAGCAATTGAGA TGTCACTTTACATGGGAGTTATCCATTGATGACGATGAAATGCCTGATTTAGAAAACAGAGTC TTGGATCAGATTGAATTCCTAGACACCAAATACAGTGTGGGAATACACAACCTACTAGCCTAT GTGAAACACCTGAAAGGCCAGAATGAGGAAGCCCTGAAGAGCTTAAAAGAAGCTGAAAACT TAATGCAGGAAGAACATGACAACCAAGCAAATGTGAGGAGTCTGGTGACCTGGGGCAACTT TGCCTGGATGTATTACCACATGGGCAGACTGGCAGAAGCCCAGACTTACCTGGACAAGGTG GAGAACATTTGCAAGAAGCTTTCAAATCCCTTCCGCTATAGAATGGAGTGTCCAGAAATAGA CTGTGAGGAAGGATGGGCCTTGCTGAAGTGTGGAGGAAAAAATTATGAACGGGCCAAGGCC

TGCTTTGAAAAGGTGCTTGAAGTGGACCCTGAAAACCCTGAATCCAGCGCTGGGTATGCGA TCTCTGCCTATCGCCTGGATGGCTTTAAATTAGCCACAAAAAATCACAAGCCATTTTCTTTGC TTCCCCTAAGGCAGGCTGTCCGCTTAAATCCAGACAATGGATATTAAGGTTCTCCTTGCC CTGAAGCTTCAGGATGAAGGACAGGAAGCTGAAGGAGAAAAGTACATTGAAGAAGCTCTAG CCAACATGTCCTCACAGACCTATGTCTTTCGATATGCAGCCAAGTTTTACCGAAGAAAAGGC TCTGTGGATAAAGCTCTTGAGTTATTAAAAAAGGCCTTGCAGGAAACACCCACTTCTGTCTTA CTGCATCACCAGATAGGGCTTTGCTACAAGGCACAAATGATCCAAATCAAGGAGGCTACAAA AGGGCAGCCTAGAGGGCAAAACAGAGAAAAGCTAGACAAAATGATAAGATCAGCCATATTTC **ATTTTGAATCTGCAGTGGAAAAAAAGCCCACATTTGAGGTGGCTCATCTAGACCTGGCAAGA** ATGTATATAGAAGCAGGCAATCACAGAAAAGCTGAAGAGAATTTTCAAAAATTGTTATGCATG AAACCAGTGGTAGAAGAAACAATGCAAGACATACATTTCCACTATGGTCGGTTTCAGGAATTT CAAAAGAAATCTGACGTCAATGCAATTATCCATTATTTAAAAGCTATAAAAATAGAACAGGCA TCATTAACAAGGGATAAAAGTATCAATTCTTTGAAGAAATTGGTTTTAAGGAAACTTCGGAGA GAATGAAGCCCTGGAGTACTATGAGCGGGCCCTGAGACTGGCTGCTGACTTTGAGAACTCT GTGAGACAAGGTCCTTAGGCACCCAGATATCAGCCACTTTCACATTTCATTTTATGCT AACATTTACTAATCATCTTTTCTGCTTACTGTTTTCAGAAACATTATAATTCACTGTAATGATGT **AATTCTTGAATAAATCTGACAAAATATTAGTTGTGTTCAACAATTAGTGAAACAGAATGTG** TTAACTTTGTAGGAAATAAAACATTGGACTTACACGAAAtgtttaattcattcatttattgtgaaataaaaataaaa tecttagetectecaecaactgaacagaccetettggecaaggagacccagaaacettaaaaactaagttteccaaccatgacaagat gagagatcattcacacctcattatattccctcccttgctaactgccattggactttttccactgagttaaacagaaaccca >495

NNNNCGCGGCCGCGTCGACTACGGCTGCGAGAAGCCCCGGGAATAGCAGAATAGG AGCAAGCCAGCACTAGTCAGCTAACTAAGTGACTCAACCAAGGCCTTTTTTCCTTGTTATCTT TGCAGATACTTCATTTTCTTAGCGTTTCTGGAGATTACAACATCCTGCGGTTCCGTTTCTGGG AACTTTACTGATTTATCTCCCCCCTCACACAAATAAGCATTGATTCCTGCATTTCTGAAGATCT CAAGATCTGGACTACTGTTGAAAAAATTTCCAGTGAGGCTCACTTATGTCTGTAAAGATGGG AAAAAAATACAAGAACATTGTTCTACTAAAAGGATTAGAGGTCATCAATGATTATCATTTTAGA ATGGTTAAGTCCTTACTGAGCAACGATTTAAAACTTAATTTAAAAATGAGAGAAGAGTATGAC AAAATTCAGATTGCTGACTTGATGGAAGAAAAGTTCCGAGGTGATGCTGGTTTGGGCAAACT AATAAAAATTTTCGAAGATATACCAACGCTTGAAGACCTGGCTGAAACTCTTAAAAAAGAAAA CTGCACCCTCCACAAGCAGCACTGTCAAAACTGAAGGAGGCAGAGGCAACTCCTGGAGCTCA GAAAAGAAAAAATCAACCAAAGAAAAGGCTGGACCCAAAGGGAGTAAGGTGTCCGAGGAA CAGACTCAGCCTCCCTCTCCTGCAGGAGCCGGCATGTCCACAGCCATGGGCCGTTCCCCAT CTCCCAAGACCTCATTGTCAGCTCCACCCAACACTTCTTCAACTGAGAACCCGAAAACAGTG GCCAAATGTCAGGTAACTCCCAGAAGAAATGTTCTCCAAAAACGCCCAGTGATAGTGAAGGT TGCTACAGTGGCTACACAGACACAGTTCTTCCATGTGAAGGTTTTAAACACCAGCTTGAAGG **AGAAATTCAATGGAAAGAAAATCATCATCATATCAGATTATTTGGAATATGATAGTCTCCTAGA** GGTCAATGAAGAATCTACTGTATCTGAAGCTGGTCCTAACCAAACGTTTGAGGTTCCAAATAA TATTGTATATGGGGTATTTATGCTACATAAGAAAACAGTAAATCAGAAGACCACAATCTACGA **AATTCAGGATGATAGAGGAAAAATGGATGTAGTGGGGACAGGACAATGTCACAATATCCCCT** GTGAAGAAGAAGAACCAACTTTTCTGCTTTCGACTTAGAAAAAAGAACCAGATGTCA GACCCCAAGAGCATGAAGCTACCCCAGGAACAGAGTCAGCTTCCAAATCCTTCAGAGGCCA GATACTGAAGGAAGGGAGTCATTTTCCAGGACCGTTCATGACCAGCATAGGCCCAGCTGAG AGCCATCCCCACACTCCTCAGATGCCTCCATCAACACCAAGCAGCAGTTTCTTAACCACGTT GAAACCAAGACTGAAGACTGAACCTGAAGAAGTTTCCATAGAAGACAGTGCCCAGAGTGAC CTCAAAGAAGTGATGGTGCTGAACGCAACAGAATCATTTGTATATGAGCCCAAAGAGCAGAA GAAAATGTTTCATGCCACAGTGGCAACTGAGAATGAAGTCTTCCGAGTGAAGGTTTTTAATAT TGACCTAAAGGAGAAGTTCACCCCAAAGAAGATCATTGCCATAGCAAATTATGTTTGCCGCA

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Table 4

CAAAACAGGTCTATGTTTTGTTACGTGCCTGGGCAGGGCGCTTAGCGTAGCTGGAA
TGCGCAGGACTGCACAATAATAAATTAGTCCTGAACGTTGTATTCCAGTTGACCC
AGGTCCTCTCGAAGAACAGAGGGGCAACTGTGCAAAATCTTGGTGACTTGCTGTACCGTGA
AAAGGCACTTCTCCTTGAGAAGCCTGACAGTGTCGTTAATGTCCTGCTGGCGCATGGTGAAA
ATTTCAGGGCAACAGTAAAGCACCCTCTTAATTTCCCTGCTGCCCAAGCTTTTGCAGG
TAACTGGAGCGCTTCCTCATTTGCATAATAGGCAGTTTCAATAACTGGGGACTTTTCTTCAAG
ACCACACACACAGGCTCTGGATTCAGACCCAAGAGAATAAATTCTGAAATGATGTCCAGCAA
CTGTTGAAGACTGGCACCTCGCCGTACACTGAGCAATTCATTAATATGGGCATTGCTGAAAC
CCATGTCCAGGAGGGAACTCATGACCCTCTCTAGCTCCAAGGACCCTTGTACCACAGGAGT
CCCCTGCTTCTCAAGGAGGCACTGAACAAGATTCCTCCTGCACTCTGGTTCCTGCACATAGT
TATTGGATCTAACACAAGATAACTCCTCAATGACCCCTCCATTGGAGGCTGTAGTCAGTTTG
CGCAACAAAGAAGCTGTCGTCCTTCTCTGTTCTCCAAGATGAGGAGCTCTGCCTAGCCATACA
GGCCCAGGTGAGGGGGATCAGGCGGTGCCAATCAAGGACCTGACGGCCGAACGCAGCCAT
AGCGCGGAGAAAGATGGCAGCCGGACGCGTGG

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NNNNGATGGGGCGCCGGGTCCAGCGACCCACGCGTCCGGCCGTGCGGTACTTG TGCTGGGCCTGAACGCAGGAGCTGTCATTGACTGGCCCACAGAGGAGGGCAAGGAAGTAT GGGATTATGTGACGGTCCGCAAGGATGCCTACATGTTCTGGTGGCTCTATTATGCCACCAAC TCCTGCAAGAACTTCTCAGAACTGCCCCTGGTCATGTGGCTTCAGGGCGGTCCAGGCGGTT CTAGCACTGGATTTGGAAACTTTGAGGAAATTGGGCCCCTTGACAGTGATCTCAAACCACGG AAAACCACCTGGCTCCAGGCTGCCAGTCTCCTATTTGTGGATAATCCCGTGGGCACTGGGT TCAGTTATGTGAATGGTAGTGGTGCCTATGCCAAGGACCTGGCTATGGTGGCTTCAGACATG ATGGTTCTCCTGAAGACCTTCTTCAGTTGCCACAAAGAATTCCAGACAGTTCCATTCTACATT TTCTCAGAGTCCTATGGAGGAAAAATGGCAGCTGGCATTGGTCTAGAGCTTTATAAGGCCAT TCAGCGAGGACCATCAAGTGCAACTTTGCGGGGGTTGCCTTGGGTGATTCCTGGATCTCC CCTGTTGATTCGGTGCTCTCCTGGGGACCTTACCTGTACAGCATGTCTCTTCTCGAAGACAA AGGTCTGGCAGAGGTGTCTAAGGTTGCAGAGCAAGTACTGAATGCCGTAAATAAGGGGCTC TACAGAGAGGCCACAGAGCTGTGGGGGAAAGCAGAAATGATCATTGAACAGAACACAGATG GGGTGAACTTCTATAACATCTTAACTAAAAGCACTCCCACGTCTACAATGGAGTCGAGTCTA GAATTCACACAGAGCCACCTAGTTTGTCTTTGTCAGCGCCACGTGAGACACCTACAACGAGA TGCCTTAAGCCAGCTCATGAATGGCCCCATCAGAAAGAAGCTCAAAATTATTCCTGAGGATC AATCCTGGGGAGGCCAGGCTACCAACGTCTTTGTGAACATGGAGGAGGACTTCATGAAGCC **AGTCATTAGCATTGTGGACGAGTTGCTGGAGGCAGGGATCAACGTGACGGTGTATAATGGA** CAGCTGGATCTCATCGTAGATACCATGGGTCAGGAGGCCTGGGTGCGGAAACTGAAGTGGC CAGAACTGCCTAAATTCAGTCAGCTGAAGTGGAAGGCCCTGTACAGTGACCCTAAATCTTTG GAAACATCTGCTTTTGTCAAGTCCTACAAGAACCTTGCTTTCTACTGGATTCTGAAAGCTGGT CATATGGTTCCTTCTGACCAAGGGGACATGGCTCTGAAGATGATGAGACTGGTGACTCAGC **AAGAATAGGATGGATGGGCTGGAGATGAGCTGGTTTGGCCTTGGGGCACAGAGCTGAGC** TGAGGCCGCTGAAGCTGTAGGAAGCGCCATTCTTCCCTGTATCTAACTGGGGCTGTGATCA AGAAGGTTCTGACCAGCTTCTGCAGAGGATAAAATCATTGTCTCTGGAGGCAATTTGGAAAT TATTTCTGCTTCTTAAAAAAACCTAAGATTTTTTAAAAAAATTGATTTGTTTTGATCAAAATAAAG

NNNNAAAAACCCCCCAAAAAGGGGGGGGAAAAAACCCCCCAAAAGGGGGAATT GTGTAACTCTTTATTAAGATGGAATTGTTCTTATTAAAGAAATAGATGAAAAATGGTTAAGTACA ATTAAATGGCTCCAAAAGTCTTACAATGAAAACAACAGTCCTGCCAGTTGTTCTTTCCAGAGG TGTTTTTTTAGTTTTTCAAGTGAATGCATATATTAATACATAAAATTTTAAAAAAGGCTTTTCA **GTTTATAATGCATCCTAACAGTCCCCTGCCCCATCCCTCCTAATTCTCCAGAGCAATGACTTT** TAACTCTTTTAGCAATGTCTTCTGTTTTTTTCCTCACATAACTTAGTCATTTCATTATTATATAT TATATAGTGATTTCTGGATATGACAGATGAGGATTTAGCTCTTACACCATCACAATCTTCACTT TTCCTCCCATATTGTCCCAGAGTAGTTACCATATTTAGGGGCTAAGCAGTCACATCATTATGA CTGTGTACATACTGCTCCTTGTTGAGAAAAACAGTGTATTATGCTCTTCCTATCCTGTACTTC TGCTTTATCTTCAATGAACTTCTTTCCAAATGCCCCAAATCTGGCAATAAGTTATTATTTTTAA GAGAAGGGATCTCACTAAGGTGGCCAGGCTGGTCTGGAACTCTTGGGCTCAAGTCGTCCTG CTGCTGAGCCTCCTGAGTAGCTGGGACTACAGGCATGGGCCATTCCACCCAGCTAACCGAT TAATATTTTACTGTTCCTTTTTAAAGCTAGCTCCATAGCTGGAATATTGCCTGTGTTGGATCC TATTTGCTGGATTCATGTCATTCTCTGGTTTGTGTACTCCTTCATTTTGCTGGAGTATTTTCTC CAACAGCTTCCCTAAAAAGGGCACATGGAGGTAACCCCTGAGTCTTTGCTTGTCTAAAAATG TATTATTTTACCTTCACCCTTGATTATTTGGGTGAATATAGATTTATCAGTTGAAAAATAACTTTC TAGAATTATGAAGGCATGGTTCCATTGTTTTCAGATTCCTTTTCGAGACAAGGTCTCTTCTGT CACCCGGCTGGAGTGCAGTGGCACAATCACGACTCACTGCAGCCTTGAACTCGTGGGCTC **AATTAATTCTTCCATCTCAGCTTCCTGACTAGATGGGAATACAGGTGTGCGCCACAATGCCC** AGCTAATTTTTGTGTTTTTTGTAGAGATGGGGCTTTGCCATGTTGCCCAAGCTGGTCTCAAGT GATCTGCCTGCCTTAGCCTCCCAAAGCGCTGGGATTACAGGTGTGAGCCACTGTGCCTGGC TGGTTTTCTTTTATTTTCTCTCTACTTCATTCATTTCTCAAAGGCATCTGAAACTCCCTGGGC CCAAAACCAAAGTCAAACTCCATCAGAATATCCTGCTACTTATAACTTTAAAATATATCTTAAA TCACAATTTCTTACTACATGCAACCCTTTGGTTCAAGCAACCATCATCCCTCACTTGAACTTAT **AATTGGTTTTCCTGCTTCTGTATTTTTTTAAATTATAAAATACTTCAAATAAACCATGTGTGGC** CTTATACTTTTTACTACATAAAAAGAATGAAGATGTGCCGGGTGTGGTGGCTCAAGCCGGTA ATCCCAGCACTTTGGGAGGCTGAGGTGGGTGAATCGCTTGCGGTCACGAGTTCGAGACTAG CCTGACCAACATGGTGAAACCCCATCTCTACTAAAAATACAAAATACAAAATTAGCCGGGC GTGGTGCCCCCCTGGTCCTAGCTACTTGGGAGCCTGAGGCAGGAGAATCGCTTGAAT CTGGGAAGGCGGAGGTTGCAGTAAGCCGAGGTCACACCATTGCATGCTAGCCTGGGCAAC AAGAGCGAAACGCTGTCTAAAAAAAAAAGAACTTACATACTTAAACATCGAATTGCTTTAAGT GTTTGGCATTCACTGTTCCCGTGCATGCCAGCAGCTTCTTACTGCAAACACCTGAGACTTGC TATAGAGCAGCTGGACTATGTTCCGCCCACACACAGGACAGGAGCTGACAACCAAGGAGG GGGGCGGATCAATACTCCAGCTTTCCCCCCTCCATTTCCCTGTATCTCAGCAGTATGGAGC TTGTTATCAATGAGAACCTGCTCGCTGACTTTAAATTGCTTTTCTTACCTTCTCAGTTCAGTTT CTCCGTACCTCAATTGATGATTTCTGGTATGACCTAGCAAATACACTGCTTTCACTGAAATTT CAGTCTTGCAATCTGCTTTGGGTTCCCCAATCTAAGACAGAAACATACTCATTTTCCCATCAC CCTCTGGATATACACGTAGGAAGCTTTTGGTATTTCCACTAGTGAAACTGCTCAGTTGAAGG GTATGTGGATCTTCATCTTTAATAAATATTACCAACATGTGAAAAGCCCGACAATGTCAAGGA CTGGCAAGAGTGCCACATGTGATGGGTGTGGAATGGCAGCTCACTGTAGCAGGTGCTGGG GACTCAGTTGGGGTCTTGGAGAAGCACTTAGTTATAGCAAGAATGTCTCATAAATGGTATCT GATAGAGACAAGAGTAGTGGGGAATAAAAACTAGTTGCTTAGAAATAATTATAGATCTAAAGT AACTAGAAAACACCTTCATATTAATCATTCTTCTCATATACTTCAAATTTGTACTTAATGCCTTT CTCCTCCTGGACATCAGAGAGAACACCTGGGTATTCTGGCAGAAGTTTATATTTCTCCAAAT

CAATTTCTGGAAAAACGTGTCACTTTCAAAGTCTTGCATGATCCTTGTCACAAATAGTTTAA GATGGCCTGGGTGATTCATGGCTTCCTTATAAACAGAACTGCCACCAACTATCCAGACCATG TCTACTTTATTTGCTAATTCTGGTTGTTCAGTAAGTTTTAAGGCATCATCTAGACTTCTGGAAA TTAAAGGTCGATTCTTCTCAGGAATGGAGAACCAGGTCTTCTTACCCATAATCACCAGATTCT GTGGCCAGGCCAGGTCCCCGTTCTTGCCGATGCCCATGTTCTGGGACACAGCGACGATGC AGTTTAGCGAACCATGACAGCAGCGGGAGGACCTCCGAGCCCGCTCGTTACAGCAGA AGGCGAGGCCCGCCCCCGCCCCGGCGCACGCAGGGTCGCGGCGTGCTCGCGCCCG CAGACGCCTGGGAACTGCGGCCGCGGGTTCGCGCTCCTCGCCGGGCCCATGCCGCACAG GGCTGCCATCCTTGCCCTGCCATGTCTCGCCGGAAGCCTGCGTCGGGCGGCCTCGCTGCC TCCAGCTCAGCCCCTGCGAGGCAAGCGGTTTTGAGCCGATTCTTCCAGTCTACGGGAAGCC TGAAATCCACCTCCTCCTCCACAGGTGCAGCCGACCAGGTGGACCCTGGCGCTGCAGCGG CCGCAGCGCCCCAGCGCCCTTCCCGCCCCAGCTGCCGCCGCACGTAGCTACAGAAA GTCCAACAAAGGAAGGAGGAAGTGATCTGGGAATGTCTGGCAACTCTGAGCCAAAGAAAT GTCTGAGGACCAGGAATGTTTCAAAGTCTCTGGAAAAATTGAAAGAATTCTGCTGCGATTCT GCCCTTCCTCAAAGTAGAGTCCAGACAGAATCTCTGCAGGAGAGATTTGCAGTTCTGCCAAA ATGTACTGATTTTGATGATATCAGTCTTCTACACGCAAAGAATGCAGTTTCTTCTGAAGATTC TACAAGTCATGAAAATTTACAGAAAACTGCTTCCAAATCAGCTAACAAACGGTCCAAAAGCAT CTATACGCCGCTAGAATTACAATACATAGAAATGAAGCAGCAGCACAAAGATGCAGTTTTGT GTGTGGAATGTGGATATAAGTATAGATTCTTTGGGGAAGATGCAGAGATTGCAGCCCGAGA GCTCAATATTTATTGCCATTTAGATCACAACTTTATGACAGCAAGTATACCTACTCACAGACT GTTTGTTCATGTACGCCGCCTGGTGGCAAAAGGATATAAGGTGGGAGTTGTGAAGCAAACT GAAACTGCAGCATTAAAGGCCATTGGAGACAACAGAAGTTCACTCTTTTCCCGGAAATTGAC TGCCCTTTATACAAAATCTACACTTATTGGAGAAGATGTGAATCCCCTAATCAAGCTGGATGA TGCTGTAAATGTTGATGAGATAATGACTGATACTTCTACCAGCTATCTTCTGTGCATCTCTGA AAATAAGGAAAATGTTAGGGACAAAAAAAAGGGCAACATTTTTATTGGCATTGTGGGAGTGC AGCCTGCCACAGGCGAGGTTGTGTTTGATAGTTTCCAGGACTCTGCTTCTCGTTCAGAGCTA AAACAGAGGCGCTCATCCACAGAGCCACATCTGTTAGTGTGCAGGATGACAGAATTCGAGT CGAAAGGATGGATAACATTTATTTTGAATACAGCCATGCTTTCCAGGCAGTTACAGAGTTTTA TGCAAAAGATACAGTTGACATCAAAGGTTCTCAAATTATTTCTGGCATTGTTAACTTAGAGAA GCCTGTGATTTGCTCTTTGGCTGCCATCATAAAATACCTCAAAGAATTCAACTTGGAAAAGAT GCTCTCCAAACCTGAGAATTTTAAACAGCTATCAAGTAAAATGGAATTTATGACAATTAATGG **AACAACATTAAGGAATCTGGAAATCCTACAGAATCAGACTGATATGAAAACCAAAGGAAGTTT** GCTGTGGGTTTTAGACCACACTAAAACTTCATTTGGGAGACGGAAGTTAAAGAAGTGGGTGA CCCAGCCACTCCTTAAATTAAGGGAAATAAATGCCCGGCTTGATGCTGTATCGGAAGTTCTC CATTCAGAATCTAGTGTTTTGGTCAGATAGAAAATCATCTACGTAAATTGCCCGACATAGAG AGGGGACTCTGTAGCATTTATCACAAAAAATGTTCTACCCAAGAGTTCTTCTTGATTGTCAAA **ACTITATATCACCTAAAGTCAGAATTTCAAGCAATAATACCTGCTGTTAATTCCCACATTCAGT** CAGACTTGCTCCGGACCGTTATTTTAGAAATTCCTGAACTCCTCAGTCCAGTGGAGCATTAC TTAAAGATACTCAATGAACAAGCTGCCAAAGTTGGGGATAAAACTGAATTATTTAAAGACCTT TCTGACTTCCCTTTAATAAAAAAGAGGAAGGATGAAATTCAAGGTGTTATTGACGAGATCCGA **ATGCATTTGCAAGAAATACGAAAAATACTAAAAAATCCTTCTGCACAATATGTGACAGTATCA** GGACAGGAGTTTATGATAGAAATAAAGAACTCTGCTGTATCTTGTATACCAACTGATTGGGTA AAGGTTGGAAGCACAAAAGCTGTGAGCCGCTTTCACTCTCTTTTATTGTAGAAAATTACAGA CATCTGAATCAGCTCCGGGAGCAGCTAGTCCTTGACTGCAGTGCTGAATGGCTTGATTTTCT AGAGAAATTCAGTGAACATTATCACTCCTTGTGTAAAGCAGTGCATCACCTAGCAACTGTTGA CTGCATTTTCTCCCTGGCCAAGGTCGCTAAGCAAGGAGATTACTGCAGACCAACTGTACAAG **ACCGGACCAAACATGGGTGGAAAGAGCTCCTACATAAAACAAGTTGCATTGATTACCATCAT** GGCTCAGATTGGCTCCTATGTTCCTGCAGAAGAGCGACAATTGGGATTGTGGATGGCATTT

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Table 4

TCACAAGGATGGTGCTGCAGACAATATATATAAAGGACGGAGTACATTTATGGAAGAACTG ACTGACACAGCAGAAATAATCAGAAAAGCAACATCACAGTCCTTGGTTATCTTGGATGAACTA GGAAGAGGGACGACCTCATGATGGAATTGCCATTGCCTATGCTACACTTGAGTATTTCAT CAGAGATGTGAAATCCTTAACCCTGTTTGTCACCCATTATCCGCCAGTTTGTGAACTAGAAAA AAATTACTCACACCAGGTGGGGAATTACCACATGGGATTCTTGGTCAGTGAGGATGAAAGCA GAGGAATTGCAGCAAGGAGTTATGGATTAAATGTGGCTAAACTAGCAGATGTTCCTGGAGAA GAGACTCAAGTATTTTGCAAAGTTATGGACGATGCATAATGCACAAGACCTGCAGAAGTGGA CAGAGGAGTTCAACATGGAAGAAACACAGACTTCTCTTCTTCATTAAAATGAAGACTACATTT GTGAACAAAAATGGAGAATTAAAAATACCAACTGTACAAAATAACTCTCCAGTAACAGCCTA TCTTTGTGTGACATGTGAGCATAAAATTATGACCATGGTATATTCCTATTGGAAACAGAGAGG TTTTTCTGAAGACAGTCTTTTTCAAGTTTCTGTCTTCCTAACTTTTCTACGTATAAACACTCTT GAATAGACTTCCACTTTGTAATTAGAAAATTTTATGGACAGTAAGTCCAGTAAAGCCTTAAGT GGCAGAATATAATTCCCAAGCTTTTGGAGGGTGATATAAAAATTTACTTGATATTTTATTTGT TTCAGTTCAGATAATTGGCAACTGGGTGAATCTGGCAGGAATCTATCCATTGAACTAAAATAA CCAGGCATGGTGGCTCATGCCTGTAATCCCAGGCAGCTTTGGGGAGGCCAAGGTAGGCAGATCA CCTGAGGTCAGGAGTTCAAGACCAGCCTGGCCAACATGGCAAAACCCCATCTTTACTAAAAA **TATAAAGTACATCTC**

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ACGCGGGGGTCTGCCGCGGTGCCGGTTCCGATTTGACAAGATCAAAGCTGCAG GAAAATGGACAGTGAGGTTCAGAGAGATGGAAGGATCTTGGATTGATGATGATGCTTGGC GAGAAGACAAGCTGCCTTATGAGGATGTCGCAATACCACTGAATGAGCTTCCTGAACCTGAA CAAGACAATGGTGGCACCACAGAATCTGTCAAAGAACAAGAAATGAAGTGGACAGACTTAGC CTTACAGTACTCGTCTTGGTGAGAGCGTGAGCTGCTGAGATTTGGGAGTCTGCGCTAGGCC CGCTTGGAGTTCTGAGCCGATGGAAGAGTTCACTCATGTTTGCACCCGCGGTGATGCGTGC TTTTCGCAAGACAAGACTCTCGGCTATGGAGTCCCCATGTTGATGGATCCTGAGCTTGAAA AAAAACTGAAAGAGAATAAAATATCTTTAGAGTCGGAATATGAGAAAATCAAAGACTCCAAGT TTGATGACTGGAAGAATATTCGAGGACCCAGGCCTTGGGAAGATCCTGACCTCCTAAGG AAGAAATCCAGAAAGCCTTAAGACTAAGACAACTTGACTCTGCTGATTCTTTTTTCCTTTTTTT TTTTTTAAATAAAAATACTATTAACTGGACTTCCTAATATATACTTCTATCAAGTGGAAAGGA **AATTCCAGGCCCATGGAAACTTGGATATGGGTAATTTGATGACAAATAATCTTCACTAAAGGT** CATGTACAGGTTTTTATACTTCCCAGCTATTCCATCTGTGGATGAAAGTAACAATGTTGGCCA CGTATATTTTACACCTCGAAATAAAAAATGTGAATACTGGCCAGACAAAAAAACAAAAAAACC GGGGTGCCCAACCCCCAAAGGTTTTTTATTTTGGGGGGATCCCCGGGTCCCCAACCCCAA **GGGGNNNN**

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NNNNNNNNNGCTATGTTGCCCAAGCTTGTCTCAAACTCCTGGTCTCAAGCAATCCT TCTGCCCTGGCCCTCCAAAGTTCTGGGTATTACAGGTGTGAGCCAGCACTCCTGGCCCAT CACAGTCTTAAAACCAAAAGTTCTGTGTCCGAGGAAAACCAGGAGTGATTGGTCACTCTATT TATGACTCATAGCACTTACAGGCTACTTCGGCAGGGACTTNGGGTACCCCTGTTCTTGGATG GCACATCATTATCAGCAACAGGAACAGTTTCTCTGAGCCCTGGCCCCTGGAGAATCTCTAGC WO 01/42467 PCT/US00/33312 751

Table 4

TTAGCTATTTTAGACTTGGGGTCAAAGAAGAGAGCCTCTTGCCCAACTCAGCAACACCAGA CAGGGGCCTCATATCTTGGCTCGTGGAAAGTAGCTTTTATACCAAGCCCTCTCCTAGGGGCA TAGGAGCCAGCATTCCCAGTTCTGGGGACAGAAAAGGCAGGTGCCCCATTGGAGCCGAGAT CCTCTACCGCAGTCGTTTGAGGAGGCGGAACTGAAGTTTTTTCTTAATTATCATGTGACGGG TTCTGGATTTAATGGGGGGAAAAGGGCGGAAAAGGACAAGGATCCAAACTGGCGAATTTGC TGATCTTCGCGTCCCTCTCCGCTTTCCGGCCGGCAGCGCTGCCAGGGTATATTTCCTTTTTT CCGATCCTGCAACAGCCTCTTTAAACTGTTTAAATGAGAATGTCCTTGGCTCAGAGAGTACTA CTCACCTGGCTTTTCACACTACTCTTCTTGATCATGTTGGTGTTGAAACTGGATGAGAAAGCA CCTTGGAACTGGTTCCTCATATTCATTCCAGTCTGGATATTTGATACTATCCTTCTTGTCCTG CTGATTGTGAAAATGGCTGGGCGGTGTAAGTCTGGCTTTGACCCTCGACATGGATCACACAA TATTAAAAAAAAAGCCTGGTACCTCATTGCAATGTTACTTAAATTAGCCTTCTGCCTCGCACT CTGTGCTAAACTGGAACAGTTTACTACCATGAATCTATCCTATGTCTTCATTCCTTTATGGGC AAGTACATCATCTCTTTCTATTGCTGTTCAACAAGTTACCATTAAAGTGTTCTGAATCTGTCA AGCTTCAAGAATACCAGAGAACTGAGGGAAAATACCAAATGTAGTTTTATACTACTTCCATAA AACAGGATTGGTGAATCACGGACTTCTAGTCAACCTACAGCTTAATTATTCAGCATTTGAGTT ACAAAAAGGGGGGCGCAGAAATCAACAGGCGCACACTTCACCACACTTTTGAAAGGCCACA GGAGACTTAAAACGGGCACCAAACTGTTGGACACAN

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ACTGAGGCTCGAAATACACCTGGCCTCGAAAGACCCCTGTGTCCCAAAGGAGATTT GAGCGGCCCTCTTTATTTTCACTTCATAGCACAGCCAAGTGTAGCTCCGACCATAGAGGAT GGGTTCGTTTTCAAAGTTGTCGTAGAATGTGTCTCGATACATCCGCTCCATCGGATTTCTGAT CTGTGGATTCATGTTCAGCCTCTTAGATACGCTTGTCCCTGTCCCGCTCTTTTTTTGAAGCTC TGTGGTTTCACTTCCTGCTTACCCCGCGGACTTGCTTAGAACTGCCAACAGACTCTTTGGAG AAAAAGACGTGTGATTTCCTTCCAGACTTTAAAGAATACTGTCAGAAGTTCTATCAGGCAGAG CTGGAGGAGTTGTCCTTTGCTGAAGACACTGAAGAGTGCAGGAAGCATATAAATGACTGGG TGGCAGAGAAGACTGAAGGTAAGATTTCGGAGGT >515

TTGGAGCTCCCGCGGTGGCGGCCGGGTTATTCTTTCAGTGCCTGTAACGTCCCCC TTCTTTGATTGGTCAACGCTCTATTTGAAAAGCCCGCCAAGGGCTGCAATTTGCCAGATAGT CTCATCCGGGTTGTTTTTCGAAGAGGTTCTCCCGGAATGGAAATGACCGTTATCTGCAGGAG TGCATCGGACTCTGGCGCCAAGAGCTGGAAGCTGTGAATTAACCGTCCCTCTTACTGCAGTT NNNNNNNCACTAGAGGCATCTCAGGTGCCTGCCCATGGGCCACACTCTTAGAGGGGGA TGTAGCTCTTAAAGGAGAAACATCAGCAAAGTAATCATCATTGTTTAAAACTGAGTATCGAGT CTCTGGTTCTTTGACCACTTTCTTCTTCTTTTTCTTCTCTGGGAGCCCAAGGTCTACTTTGTGT GTCTTGGTGATCATTCCGGTGGGCGAAATTTCCCCGCCTCCACGTGAGAGCCAGCTCCGCC GTCCCGCGTACCTCGACCGCCACCGCGGGGAGCTCCA

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NNGGGATTCAGCATCACTTCCAGAGATGTAACAATAGGTGGCTCAGCTCCGATCTAT **GTGAAAAACATTCTCCCCCGGGGGGGCGCCATTCAGGATGGCCGACTTAAGGCAGGAGAC** AGACTTATAGAGGTAAATGGAGTAGATTTAGTGGGCAAATCCCAAGAGGAAGTTGTTTCGCT GTTGAGAAGCACCAAGATGGAAGGAACTGTGAGCCTTCTGGTCTTTCGCCAGGAAGACGCC TTCCACCCAAGGGAACTGAATGCAGAGCCAAGCCAGATGCAGATTCCAAAAGAAACGAAAG CAGAAGATGAGGATATTGTTCTTACACCTGATGGCACCAGGGAATTTCTGACATTTGAAGTC CCACTTAATGATTCAGGATCTGCAGGCCTTGGTGTCAGTGTCAAAGGTAACCGGTCAAAAGA GAACCACGCAGATTTGGGAATCTTTGTCAAGTCCATTATTAATGGAGGAGCAGCATCTAAAG **ATGGAAGGCTTCGGGTGAATGATCAACTGATAGCAGTAAATGGAGAATCCCTGTTGGGCAA** GACAAACCAAGATGCCATGGAAACCCTAAGAAGGTCTATGTCTACTGAAGGCAATAAACGAG GAATGATCCAGCTTATTGTTGCAAGGAGAATAAGCAAGTGCAATGAGCTGAAGTCACCTGGG AGCCCCCTGGACCTGAGCTGCCCATTGAAACAGCGTTGGATGATAGAGAACGAAGAATTT

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Table 4

CCCATTCCCTCTACAGTGGGATTGAGGGGCTTGATGAATCGCCCAGCAGAAATGCTGCCCT CAGTAGGATAATGGGTAAATACCAGCTGTCCCCTACAGTGAATATGCCCCAAGATGACACTG TCATTATAGAAGATGACAGGTTGCCAGTGCTTCCTCCACATCTCTCTGACCAGTCCTCTTCCA GCTCCCATGATGATGTGGGGTTTGTGACGGCAGATGCTGGTACTTGGGCCAAGGCTGCAAT CAGTGATTCAGCCGACTGCTCTTTGAGTCCAGATGTTGATCCAGTTCTTGCTTTTCAACGAG AAGGATTTGGACGTCAGAGTATGTCAGAAAAACGCACAAAGCAATTTTCAGATGCCAGTCAA TTGGATTTCGTTAAAACACGAAAATCAAAAAGCATGGATTTAGGTATAGCTGACGAGACTAAA CTCAATACAGTGGATGACCAGAAAGCAGGTTCTCCCAGCAGAGATGTGGGTCCTTCCCTGG GTCTGAAGAAGTCAAGCTCGTTGGAGAGTCTGCAGACCGCAGTTGCCGAGGTGACTTTGAA TGGGGATATTCCTTTCCATCGTCCACGGCCGCGGATAATCAGAGGCAGGGGATGCAATGAG AGCTTCAGAGCTGCCATCGACAAATCTTATGATAAACCCGCGGTAGATGATGATGATGAAGG CATGGAGACCTTGGAAGAAGACACAGAAGAAGTTCAAGATCAGGGAGAGAGTCTGTATCC GAGAAGGATAAAATGAAAGCCAAGAAGGGAATGCTGAAGGGCTTGGGAGACATGTTCAGCC TTGCCAAACTGAAGCCCGAGAAGAGATGAACAACAAGCGATTCAAAACATGTCTTGAACAG **AAAAAGGGCGGCCGCN**

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NACGCGGGGAAGTGAGAGGAACCGAGAGTAAGAGAAAGAAGAAGTGAGGGGATG TAAACTCGAATAAATTTCAAAGTGCCTCCGAGGGATGCAACGGGCAAAAACTGAACTGTTCA TCACCAACAGCGAATGGCTGCCTTAGGGACGGACAAAGAGCTGAGTGATTTACTGGATTTCA GTGCGATGTTTTCACCTCCTGTGAGCAGTGGGAAAAATGGACCAACTTCTTTGGCAAGTGGA CATTTTACTGGCTCAAATGTAGAAGACAGAAGTAGCTCAGGGTCCTGGGGGGAATGGAGGAC **ATCCAGCCCGTCCAGGAACTATGGAGATGGGACTCCCTATGACCACATGACCAGCAGGGA** CCTTGGGTCACATGACAATCTCTCTCCACCTTTTGTCAATTCCAGAATACAAAGTAAAACAGA AAGGGGCTCATACTCATCTTATGGGAGAGAATCAAACTTACAGGGTTGCCACCAGGAATTGG CGTGATTCCTCACAGACACAAAGATTTCCTCTGCTGAGTAAGCGTGAGGCCCCTTAACTTGT GAAAGCATCATCCAGACCGTGTGAGTCTGTCTGTGTATGTGCAGAACACAGACCCTCCTTTC CAAGCAGAGTCTCCTTGGAGGTGACATGGATATGGGCAACCCAGGAACCCTTTCGCCCACC AAACCTGGTTCCCAGTACTATCAGTATTCTAGCAATAATCCCCGAAGGAGGCCTCTTCACAG TAGTGCCATGGAGGTACAGACAAAGAAAGTTCGAAAAGTTCCTCCAGGTTTGCCATCTTCAG **AAACCAGCACCAGCACTTTCCCTAGCTCCTTCTTCATGCAAGATGGCCATCACAGCAGTGA** CCCTTGGAGCTCCTCCAGTGGGATGAATCAGCCTGGCTATGCAGGAATGTTGGGCAACTCT

TTGGAGCTCCACGCGGTGGCGGCCGAGGTACGCGGGGCTCTTGAGGAGTGAGACT GCAGGAGATGTGGGCCGTGCCAAAGTGATGGCTGACACTGTGGCTCAGTTCATCAAGAGGA CCATCTTGAAGATCCCCATGAGTGAACTGACAACAATCCTGAAGGCCTGGGATTTTTTGTCT GAAAATCAACTGCAGACTGTAAATTTCCGACAGAGAAAGGAATCTGTAGTTCAGCACTTGAT CCATCTGTGTGAGGAAAAGCGTGCAAGTATCAGTGATGCTGCCCTGTTAGACATCATTTGTA AGTGCTGGAGTGCAGTAACGCCATCTCAGCTCACCGCGACCTCTGCCTCCTGGATTCAAGT GATTCTCCAACCTCAGCCTCCGAGTAGCTGGGACTATAGCAGTGCACCACCATATATGCAA TTTCATCAGCACCAGAAAGTTTGGGATGTTTTTCAGATGAGTAAAGGGCCAGGTGAAGATGT TGACCTTTTTGATATGAAACAATTTAAAAATTCGTTCAAGAAAATTCTTCAGAGAGCATTAAAA AATGTGACAGTCAGCTTCAGAGAAACTGAGGAGAATGCAGTCTGGATTCGAATTGCCTGGG CCGTACGCCTTCACGTCCTCCATGCTGAGGCGCAATACACCGCTTCTGGGTCAGGCGC TGACAATTGCTAGCAAACACCATCAGATTGTGAAAATGGACCTGAGAAGTCGGTATCTGGAC TCTCTTAAGGCTATTGTTTATAAACAGTATAATCAGACCTTTGAAACTCACAACTCTACGACAC AATAGAAAAAGAGAGAGTCCAAACGAATAACTCAAGAACACATTTGGAGATTATCCTCAACCA CAACTAGGAATTGCACAATATAAGCTTGAAACGAAATTCAAAAGTGGTTGAAATGGGAGCAT CTTGGCTGAGAGGAAAGAACCCCTCCGATGCCTAATAAAGTTCTCTAGCCCACATCTTCTGG AAGCATTGAAATCCTTAGCACCAGCGGGTATTGCAGATGCTCCACTTTCTCCACTGCTCACT CTTAAGCACAGCTCCTTCTTGATATTGCACATGCACTTCAGTTCATGGCTAGCTGTATAG CTTCCGTCTGTAAACTTGTATTTTCAAGAATCCTTGGTATTGAATTTTTAGAAATGCTCACATA CCGTGTGGCATTTGAGATGACAGGACATATTTATATATGGCCCACACTTGACTTGAGTGCTG **AATGCTCTGAAAGCAAGCATATGGCACAGCGCTCAAGAACTGGCGTGGGGGCCTTACCATG** GGGACCGCCAGTCGGGAAGGGCGGGCAAGGGGGGTCCCGGATAGAGCCCAACGCTGGA CGGGAAAGCACCGGGAAACCACCCAACGTGCAACCACCAAGGCCTCCACGGGGGGCGCC CCGAGGGGGGAGAGGCGTGGGGAACAACAGGTGGGACACCCACACAAGACCCACAAATC **AAGACAACACGGCGAGAACAACAAGGNNN**

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GCTCTCCATTCTTCTTCTTGGCTTTACAGGTTCCCAGGTCAAGAGCTTCACCCATAATTAAGA CCTTCTGAGGATGATCGATAGATAAACACACCTCCTCTGAACCATCCTTGGGCTTCATGGGG TTGGCATTGAGGATCCCTACGACAGTCCCCTGCTCCGTCTTCCAGAGCGCTTTGTGAACTTC TCCAAATAAGAACAAGGACACACTTGTGTCAGGTCACGAAGATCATTCAGTTTCCATATGCT GAAGGTTTTTCCACTATTCACACTCTGTGGCGTAACCTTCTTCAATATAACCCCAAATGTCAC CCAATCTATTTCTTCCAGCTTCTCTCGGCCATCTTTTCCTTGATCTGAGACAGTCTGATCAG TTTTCGGCCGGTCATGTGTCTTCGTTCATATTCTCTGGAGGATACTCGAGCCCGCCTCGAGC CGCAGACCAGGAGAAGGCTTCCACACAGATGGCGATTGAGTCGTTTCCTCACAGAACTTTC ACTCGGGGTCCACCACATATTTGACCTCTAGTTATCCCACTAGGTTTGTTCCGAGAAATCGT CTGTAGGGGTTGGGAGGTGCACTTGTCATCCTTGAAGATGAGCTTTTGGGATCTGGAGGT GAAGCCTTTGGTGTTCGAGCCACCCTCTTGGTTCTTGGTAGCGCAGGGACATCAAGCTCCG CAGAAAAGCATGTTGACTCCTGAATTCTCTGAACTCTCCTCTCCTTAAGAGGTGGCCGGGGA AGCTGCTCTTGTAAGGCCTTCATTTGCTCTTGCAAATTCCTTAATTCCTCTTGCAACTCTTCAT TCGTTTTCTCTCGCCTGGGGGCAGGAGCAGGAGGACCCTATTTTCAGTTGACTGTGATGC GGGAACTTCTTCATCTGTTAAGTCCTCCATATCTCCAAAGAGAGTGGCCAGATTTTCCTT TTCGTCTCTTGTCTCCTGTTTCTCCATCATCAGCCTCTTCTGTATAAGATTCACCGTCGCC GTCGCCATCAAGAGCTCATCAAATGCGTCGGGCTCGCCATTTTCCCGCGTCAAGAGTTAT TTTCTTCTGAATTACAATCCAAGGCTGACTCATTTTCTTCCAGCAGTGCGGTCAGCAGAGACA GATTGTCTTCCTCCTCATCCATGCTGTCAAGAGGACAGTTGTGACAGGAAACTTCGAAGGAG GCTCAGATGCCCAGATGAGCAATGTAGAATCTTGGCCGATGCCGGGACGCCTTCTTCGTTC ACAGCTGAACCCGCCAAAATCGGACNN

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NAGTCGACCCACGCGTCCGATTTCATCCTGTTGCCCCTCCGAAATCTATTGCTTTAG ATTCAGAGCCCAAGCCTCTCATTGATGTGAGTGTCATCACAAGATTTAATGAGTACAGTAAAG TCTTACAGTTCAAGTATTTTATGGTCCTCATTCAGGAAATGGCCTTAAAAATTGATCAAGGGT TTCTAGGAGCTATTATTGCACTGTTTACCCCAACAACAGACCCTGAAGCTGAAAGAAGACGG ACAAAGTTAATCCAGCAAGATATTGATGCTCTAAATGCAGAATTAATGGAGACTTCAATGACT GATATGTCAATTCTTAGTTTCTTTGAACATTTCCATATTTCTCCTGTGAAGTTGCATTTGAGTT TGTCTTTGGGTTCCGGAGGTGAAGAATCAGACAAAGAAAAACAGGAAATGTTTGCAGTTCAT **AAACTTGCTTATTATGAAATTCGATATCAGTTCTACAAGAGAGATCAGCTTATATGGAGTGTT** CTTGGAAACCCATTTGGATTAATTAGAGGTCTGTCTGAAGGAGTTGAAGCTTTATTCTATGAA CCCTTCCAGGGTGCTGTTCAAGGCCCTGAAGAATTTGCAGAGGGGTTAGTGATTGGAGTGA GAAGCCTCTTTGGACACACAGTAGGTGGTGCAGCAGGAGTTGTATCTCGAATCACCGGTTC TGTTGGGAAAGGTTTGGCAGCAATTACAATGGACAAGGAATATCAGCAAAAAAAGAAGAAGAAG AGTTGAGTCGACAGCCCAGAGATTTTGGAGACAGCCTGGCCAGAGGAGGAAAGGGCTTTCT GCGAGGAGTTGTTGGTGGAGTGACTGGAATAATAACAAAACCTGTGGAAGGTGCCAAAAAG GAAGGAGCTGCTGGATTCTTTAAAGGAATTGGAAAAGGGCTTGTGGGTGCTGTGGCCCGTC CAACTGGTGGAATCGTAGATATGGCCAGTAGTACCTTCCAAGGCATTCAGAGGGCAGCAGA ATCAACTGAGGAAGTATCTAGCCTCCGTCCCCTCGCCTGATCCATGAAGATGGCATCATTC GAAGGAGACTTACCGATACCACTGTGCTATTCCTGGAAGCAAGAAGACAATCCTTATGGT TACAAATAGGCGAGTGTTGTGTATAAAGGAAGTTGAAATCCTGGGCCTTATGTGTGTAGACT GGCAATGTCCATTTGAAGATTTTGTATTTCCTCCTAGTGTCAGTGAAAAATGTGCTAAAAATTT CAGTTAAGGAACAGGGTCTGTTCCACAAAAAAGACAGTGCCAATCAAGGCTGTGTTCGAAAA GTTTACCTGAAGGACACCGCCACAGCAGAGAGAGCATGTAATGCCATTGAGGATGCACAGT CAACGAGACAGCAGAAAAATTGATGAAGCAGTCATCAGTGAGACTTCTCAGACCCCAATTG CCATCTTAATCACAGACCTCAGGGGGCTCCAACAGGGAAAAAAACAATCACTGGTCTTGTCT ATAAGTCACTCTGCTTTATCTTGCTAAAGACAATTTTTCAAGCAATCCTTTAGTTTTAGTTTTCT GGAATAGCTAGTATTGGGTTTTCTAGTTTTTTCACCTTTTAGTTTTTACTCTAATTTTGTAACCA TGTATATGCTAGCAGTCCACTTCTACGCCACCACCAAATGGGTCAGACCCTTGAAGAAACG TCACTTCAAACTCAGAATGAAATTTTCATTAATATTAAAATTGTGAAGCAAAGGTCAATAGGCT

TATATTTAATTAAAGCCTTACTGAAGAATAAGAAATGAGCTTAGAATGACTAGTGTTCTTTGAA CCCAGGCTGGAATGCAGTGGTGCGATCTTGGCTCACTGCAATCTCTGCCTCTCGGGTTCAA GCGGTTCTACTGCCTCAGCCTCCTGAGTAGCTAGGATTACAGGTGTGTGCCACCACGCCTG GGTAATTTTTTTTTTTTTTTGTATTTTTAGTAGAGATGAGTTTCACCATGTTGGTCAGTCTAGTC TCGAACTCCTGACCTTGTGATCCGCATGCCTCAGCCTCCCAAAGTGCTGGGATTACAGGCAT GAGCCACCACGCCCCAAAAGGCTTTAACCCATGAACAAATGTTGGATCCTGACATTTTG TTTAAGAGTGATTTGTTCAATAATTGAACTGAGTTAACATTCTTGGTAAACCAGGTAATTGAAT GAAGAAAGGTCACTAAAGGGAGAAATGACATGTTTTCTATTTTCATGACAAAACACTGTT TTTCCCCCTAATAAAGCATATTTTACTTTGGTGCTTATTTTTCCTCCTCCTTGCAGTCTAATAAAAA AATCTGGACAATCAAACCTTAAAATAGCTACACTCTGCCCTCTGTAATGTAGCATTCATAAAA ATTTGGAAGTATTTACATCCTCTTTCAAGATGAGCTTATATGACACAATTATTATTTGCTGATA CATGAAAATACTGCACTTTAAGTTTCTCAAGACTCTGAAATATGTAAAATTCAATATTTTTATAT TCCCAGAAATTGTTTCTTACAGGTTGAAAGTCTTTTAAGGGCATCACAAATTAACATTTACTCC TAATGCACGCCTAGAATGTATTTTAAATACTTACTAAGAAGAATGAAAATTCTTTGGTTGTTTT ATATATAAATAAGGCATATATAATGACACTGTGTTCTGTGAGGGGGCGCGCCCTGTGAGAAT CAATTCAGGACAGTATTTTTTTTTTGTCCTTTCTCCATCCTTGATCAGAGATAAACTATTAAAAC TTTAAAAAATACTCAAAAATATGTAAGTTTTTTGGTTGAACCTTTAGATTTGCTCATAATGTTTA ACATAACAACATTTATTTCAAATCACTGAATTCATGGAGATGTGGACACGCTTGGTTTGCTCT ATTTTTGTTTATGTGTGATAGTGGTTCTGTCATCATCATCATGTTTTTTAAGGCCTGGTCATA AAACTTTAAATTTTACTAGTGTTACTTAATGTATATTCTAAAAAGAGAATGCAGTAACTAATGC CCTAAATGTTTGATCTCTGTTTGTCATTACTTTTTCAAAATTATTTTTTTCTGTAAAGTATAATA TATAAAACTTCTTGCTTAAATTGAATTTCTATATTAGTGGTTAATTGCAGTTTATTAAAGGGAT CATTATCAGTAATTTCATAGCAACTGTTCTAGTGTTTTTGTGTTTTTAAAACAGAATTAGGAATT TGAGATATCTGATTATATTTTCATATGAATCACAGCTGTTGACAATGTCCCATATATTTAAGA AATTATATCATACTGATACTATTTGTAACATTTTGATTTGATTTAATCTCCAGGGACAGAAATA ATTCATTGGTAAAGTGTAATAATGCGTTTTTTAAAAAATGCTTTGAGAGGTAATTACTTGCATAT

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NNNNNNNNNNNNNNNNNNNNNNNNCAGCTTCATTTCCATTTTGGAGTGTGAGAGT TTTTATTCAATTTGTGAAGGACAGTTTTAGAACAAAATGTTAGTAACACTCTTAGAACACTGG TTTGTTCATTTGACATTTTATCTGCACCAATTTTTATTACAAAAATCAAAAAAGTAAAAATTCAT TACAATATTTGCAGAGTATAACCACTAGTTGCCTAGACAAAAGCTAATTTCTACAAAATCAAAA **ACTTAATGCAGTTTTATTAAGAGAGTCAAAATTCTCTCAGTTAACTGGATATACATAGTGGTAT** ATATCTTAAAGCAGAAAACCCCCAAAAAACAAAAACAAGGAAAAAAGAAAATACATGTCAACAG TCAGTTAAATATTTTGACCTGACAGTTTCTACAAATAGTGATTTTCACTACATATAAAGGAATC TGTTACATGTGGTAAAACTTCCAGAGACCAAGTAGGAAGTGTGGAATAAAAACAATAAATCCA **AACGCAGCCCAGGCTGGGCCTGTTTTCCATGAAGCCCAAGGCAGTGATCTTCATCATTAA** GGAGGGACCACTGTGTCCACAACTAAAACCTTCAACCACATGGTGATCTGCAAAGCTTCATT GAAAAAGACAAACATTCTCTTCTCACACAAATCACTGCAGAAATCTTTGTAAGGCTGTACCT AAAATGATGCCCATGTGCAAAGAGATAAATTACCAGGCACCTGATTTACCACCCCAATTTATC TTGATCATATAATCTTTTAACAAAAAGAAAAATGGCAATATCTGGTGACAGTATTAAAAAAGACA ATGTTGAGATTGGCATCAGAAAAACTCCAAAAGTGCACCTTATAAAAAGGACACCTCACTGTA CGAAGTTTACTTTTTCAGAAAGTTGAAGTATATAAAAAAAGTACAAGTTGTGACATTCGTTCAA CAGGTCAGCGTCTCTAGGAGCCGTGGTGCAGGTGCATGGTGCCCAGCACGGCACTGTCGT ACCGCTCCTGCACCTTCACGGACTTGGAATGCTCGACCACACTGTTCAGTTCTGGGATGCTT TCAGCAGTGTCCCCAAACCCGTGGTAGTGTCCATAGTACAGGTTATCCCCAATGTCTTCCAC CCAGGAAGGCCTACTGGCTACTGGACTCCCGTTCAGGTGCAGAAACCGCAC AACTCAGGGTTAGCTCTCAGGGTCTTCTCTGGCTCCTCAGTCCCACTAATGCAGAGAGAACC

CTGGCTACTCGGAAACGGCTGTCCTGGGGCTAATCCACTGCTAATTCCGTTAGTTCCTGTCA AGCACTGGCCATTCCTGCTTTCCATCCCACTGAGCGGGGTCGTGGAGGGGAAGTCCAAATG TCCATTGATGACACATCCATTTGTCAATGTATTCGATACGGAGCTACTGTTTTTCATATCTGTT ACAACAGCAAACTCCCTATCAACGTGCATTTTGTCAGCATCGTCTTCTGTGTCGCCATTCGT CTGAGTCCTCCAAGCATCTCTTTCGATTTGTTCCCACACTAATATGATTAGGAAATACATTCT GATGACCCCCATTTAAGATGCCATTGTTATAGAAATGGTTCAGATGACAATTCTGGAGGTTCA AGAGAGACTGGGCACACTCTTGGAAACCCTGGGTTTGTGCAATGTCTGCTGCTGTCAGGCC ACTGGCATTTCTCAGGTCGACGTGAGCCCCATTCGCCACAGGGCACTGATGCATTCTAGG CTCCCAGAGCGAGCTGCCTTGTGAATGGGAGTTTCACCCTCACAATCCGGTTTGTTAATGTT GGCTCCTGCTTGAATCAGCCAGACCAGGCACTGAGGATGTCCCCCAAAGGCTGCAATGTGG GCTGGCGTCTGCGCGTACCGTGTGGTGGAGACGTTGAGTGTGGCTCCCGCTCTCACCAACT GCACTAAGCACTCCAACTTGCCGAAATGCGCGGCCCAGTGCACGGGCGTCCAGCCATAGAA GGAGTCCTCAGAGGCCAGGTGGGCGTGGGGTGTCTGCTGCAGCAGCGAGCAGAGCGTGG CTGGAGAAGCCCGCCTCTACGCCCGCGCCGCCCCCCCGCGCACATGGTCCGTCACCGG AGAGCGCGGGGCTCGCTGGCCTAGAGGACGCGTCGGGGAGGACTCGAGAAGCCGCCGCC **GCAGCACAAAGGAACGAGACTAGCGCCGCGGTCGCGTCCCCACAGGCTGCCGAGCGGAGC GCGNNN**

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NCGGGCCGGGGTGAATCGCCGAGGGAGGGACTGGCAGTCCCCTCCTCCGCGC CGGCCCAACCCTGTCGCTGCCGCGCGCTCCGAGTCCCCATTCCCGAGCTGCCGCTGTTG TCGCTCGCTCAGCGTCTCCCTCTCGGCCGCCCTCTCCTCGGGACGATGGCGCGCGGTGGC GGTTCTGCGGGCCAAGCCCACGGTGCGCAAAGAGCGCGTGGTGCGGCCCGACTCGGAGC TGGGCGAGCGCCCCTGAGGACAACCAGAGCTTCCAGTACGACCACGAGGCCTTCCTGG GCAAGGAGGACTCCAAGACCTTCGACCAGCTCACCCCGGACGAGGAGCAAGGAGAGGCTAG GGAAGATTGTTGATCGAATCGACAATGATGGGGATGGCTTTGTCACTACTGAGGAGCTGAAA ACCTGGATCAAACGGGTGCAGAAAAGATACATCTTTGATAATGTCGCCAAAGTCTGGAAGGA ACTACCTAGGAAACCCCGCAGAGTTTCATGATTCTTCAGATCATCACACCTTTAAAAAGATGC TGCCACGTGATGAGAGAAGATTCAAAGCTGCAGACCTCAATGGTGACCTGACAGCTACTCG GGAGGAGTTCACTGCCTTTCTGCATCCTGAAGAGTTTGAACATATGAAGGAAATTGTGGTTT TGGAAACCCTGGAGGACATCGACAAGAACGGGGATGGGTTTGTGGATCAGGATGAGTATAT TGCGGATATGTTTTCCCATGAGGAGAATGGCCCTGAGCCAGACTGGGTTTTATCAGAACGG GAGCAGTTTAACGAATTCCGGGATCTGAACAAGGACGGGAAGTTAGACAAAGATGAGATTC GCCACTGGATCCTCCCTCAAGATTATGATCATGCACAGGCTGAGGCCAGGCATCTGGTATAT GAATCAGACAAAAACAAGGATGAGAAGCTAACTAAAGAGGAAATATTGGAGAACTGGAACAT GTTTGTTGGAAGCCAAGCTACCAATTACGGGGAAGATCTCACAAAAAATCATGATGAGCTTT GATAGACACTCACCAGAATATGGCAGACTGTCATAGGCATTCTGTTATTGTCTTGGATTGTTG CTACAATTGTCTAATTTACAGCAGTTGTGATCCCACAAAAAGCAAGTTTATACCTCAGATTGG GGTATAAAAATTGTTTTTCGCTCAGTATTTACTGGAAAATGGACATCACTAGTCTTTCAGTAA

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Table 4

CAACATGACTTAAAACTTTTTTTTTTCTATTAAAACTTAAAGGGGAACAAAACTTGAAAAAGCC CTGTTCTTCAGAAGGTGAGTGGGTTGAGGGAGGCAGTAATATGAAGTGACTGCTGTGTATTT TAACTACCAGATTTTTTATATTTGCCACTGTTAAATAGTTGGAAAGGGGAAATTCTGATTAAGC TCGACTTTATACTCTGAGTTATTACTTACTGTAAGTGGTGTATATGAAACCTCCATGCATTTTC ATCAAGAAAGATAATGTGAAAAAGAAAGGAATTTAGAGGTAGGGAAAAGATGAATGTCAGAC ATTTGAAGAACTATAGTAAAATGATAAACACTAAATATACTTGAGAAAACTTTCTTAATATGCC AATGAGGTAGGCCTGATCTTTGAAATAGTGAATAGGAATACAATGCATTTCCTCAGTGATCAC TGATTAGAATGAGTTGGTGGGATCCTTGGGAAGCCAAACGGAGCGGAGTTCTGGATCATGT CCCATCCAGTCCAGTGAATCCACGACCCGCAGACCTGCCCCCCGCAACAGCTTATACCAT GGAATGAGGACAAGGTGATACTCTGAGCTGTGGACTGAACTGGCAGACACACCTGTACAG ATTGAAATTTCACCTTGTAAGGAGGAAGTGAATGAAATAAAGGATCCCCCTAAGGAATTAAAA GGGGGCCCGCACCCAATTCGCCCTATAGTGAGTCGTTTTAACAATCAACTGGCCGCCGG **TTTAACAACGNN**

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NNNNNNNNNNCCAGCGCGGGGCCGAGAGAGCAGTAGTCAATAAAGAGAGTGC AAAAAGAAACGGTCACGAGTTAAACAGATGTTGATATATCACTACTTGTGTCTTTTAAC >542

GGACGCCAGGGACTCCTCTCCGTCTCCCTGGACCGCTGTGTAGGCACCTGAGTTAACGGAC GCTAAGCGGGGTAGGGGAAGTAACAGTGTATCATGTATGCCACTGATTCCAGGGGACACTC CCCTGCTTTCCTCCAACCTCAGAATGGAAATAGTCGTCACCCATCTGGCTATGTTCCAGGGA AGGTTGTCCCATTGCGTCCCCCTCCTCCAAAGAGTCAAGCTTCAGCCAAATTTACCTCC ATCAGACGAGAAGACCGGGCAACCTTCGCATTCTCACCTGAAGAACAGCAAGCCCAGAGAG AAAGTCAAAAGCAAAAGAGACACAAAAATACTTTCATTTGTTTTGCTATTACTAGTTTCTCATT TTTTATTGCACTTGCAATCATTTTAGGAATATCCTCAAAATATGCTCCAGATGAAAATTGCCCA GATCAAAATCCTCGTCTCAGGAATTGGGATCCAGGACAAGATTCTGCAAAGCAAGTTGTTAT CAAGGAGGAGATATGCTCCGTCTGACCTCAGACGCCACCGTGCATTCTATAGTCATTCAG GATGGAGGACTGCTTGTATTTGGGGACAATAAAGATGGATCCAGAAATATTACTTTGAGGAC TCATTACATCCTGATCCAGGATGGTGGGGCGCTTCATATTGGAGCAGAAAAATGCCGCTATA AATCCAAAGCGACAATTACCTTGTATGGCAAGTCAGATGAAGGTGAAAGTATGCCAACATTT GGCAAAAAGTTTATTGGTGTGGAAGCTGGCGGGACACTGGAGTTACATGGGGCACGGAAG GCATCGTGGACGTTGTTGGCAAGGACCCTGAATTCCTCAGGCTTGCCCTTTGGGTCCTATAC CTTTGAAAAGGACTTTTCCCGGGGCCTCAATGTGAGGGTCATTGACCAAGACACGGCCAAA ATTTTGGAAAGTGAGAGATTTGATACCCATGAATACCGCAATGAGAGCAGGCGGCTTCAGGA GTTTCTGAGATTCCAGGATCCAGGTCGGATTGTTGCCATAGCTGTCGGGGATTCAGCCGCT AAAAGTCTCTTACAAGGAACCATCCAGATGATCCAGGAACGGTTGGGAAGTGAACTGATCCA AGGACTGGGCTACAGGCAAGCTTGGGCTTTAGTTGGTGCATTGATGGTGGAAGCACTTCTT GCAATGAATCCGTGAGAAACTATGAAAATCATAGCAGTGGCGGGAAGGCTCTTGCCCAAAG AGAATTTTATACTGTGGATGGCCAGAAGTTCTCTGTGACAGCTTATAGTGAATGGATTGAAG GCGTTTCTCTTCAGGATTCCGGGTAGAGGTTGTAGATGGAGGTGAAGCTAAATTTGCTAGAT GATGTTAGTAGTTGGAAACCTGGAGACCAGATTGTGGTCGCAAGCACAGACTATTCCATGTA CCAAGCAGAGGAGTTCACTCTTCTCCCTGTTCTGAATGCAGCCATTTTCAGGTCAAAGTCA AAGAAACCCCTCAGTTCCTGCACATGGGTGAGATCATAGACGGTGTAGACATGAGAGCTGA GGTTGGAATTCTTACCCGGAATATTGTGATCCAAGGAGAAGTGGAGGACTCATGCTACGCA GAAAATCAGTGCCAATTTTTTGATTATGATACCTTTGGGGGGACACATTATGATAATGAAAAATT TTACTTCAGTCCATCTTTCTTATGTGGAATTGAAACACATGGGTCAGCAGCAGATGGGGCGA TACCCTGTTCATTTTCACCTGTGTGGTGACGTGGATTATAAAGGAGGATACAGACATGCAAC ATTTGTGGACGCCTGTCTATTCATCACAGCTTCTCAAGGTGCATCACTGTGCATGGGACAA

ATGGCTTGCTAATAAAAGACACCATTGGGTTTGACACACTAGGTCATTGTTTCTTTTTGGAAG ATGGTATTGAACAGAGGAATACTTTGTTCCACAATCTGGGACTCCTCACCAAGCCGGGTACT CTCCTGCCCACCGATAGGAACAACTCCATGTGTACCACCATGCGAGATAAAGTGTTTGGAAA TTACATTCCTGTGCCTGCTACTGACTGTATGGCTGTTTCAACTTTCTGGATTGCTCATCCCAA **GTGTCAAAACAACCAACTCTAGTGCTGCTGACCCAAGGGAATACCTCTGTTTGGACAATAGT** GCAAGATTTCGACCTCATCAGGATGCAAACCCCGAAAAACCACGTGTTGCTGCTCTAATTGA CAGGCTCATTGCTTTTAAAAATAATGATAATGGAGCTTGGGTCAGAGGAGGAGATATTATCG TTCAAAATTCAGCATTTGCAGATAATGGAATAGGACTGACCTTTGCCAGTGATGGAAGCTTC CCAAGTGATGAAGGTTCCAGCCAAGAGGTATCTGAATCTCTCTTTGTTGGGGAGAGCAGGA ATTACGGCTTTCAGGGTGGTCAGAACAAGTATGTAGGCACTGGAGGAATAGACCAGAAGCC TCGAACATTACCCAGGAACAGGACGTTCCCAATTAGAGGCTTTCAGATTTATGATGGGCCCA TTCATCTCACAAGGAGCACTTTCAAAAAATATGTGCCAACTCCAGATAGGTACAGCAGTGCA ATTGGCTTCCTCATGAAGAATTCCTGGCAGATAACCCCCAGGAATAATATCTCCCTCGTGAA GTTTGGTCCACATGTCTCTCGAATGTCTTTTTTGGAAAGCCTGGTCCCTGGTTTGAAGATTG TGAGATGGATGGTGATAAGAACTCCATATTCCATGACATTGATGGCTCTGTGACAGGATACA AGGATGCTTATGTGGGAAGAATGGACAACTACCTGATCCGCCATCCAAGCTGTGTAAATGTG TCTAAGTGGAATGCAGTGATCTGCAGTGGGACCTATGCACAGGTCTATGTACAGACATGGA GCACTCAGAATCTTTCTATGACCATTACACGAGATGAGTATCCGTCCAACCCTATGGTGCTC CGAGGTATTAATCAGAAGGCTGCCTTTCCACAGTACCAGCCTGTCGTCATGCTGGAGAAGG GTTATACCATCCACTGGAATGGGCCGGCACCACGGACTACATTTCTATACCTCGTCAACTTC AACAAGAATGACTGGATTCGAGTTGGCCTTTGCTATCCATCAAACACAAGTTTTCAAGTTACC TTTGGCTATTTGCAGCGGCAGAATGGCTCATTATCCAAAATCGAAGAATATGAGCCTGTGCA TTCACTGGAAGAACTGCAAAGAAAGCAATCCGAGAGGAAATTCTATTTTGACTCCAGCACGG GGTTACTGTTTTTGTATCTCAAAGCCAAAAGCCACAGGCATGGCCACAGTTACTGTTCATCTC AGGGATGTGAAAGAGTCAAGATCCAAGCAGCCACAGACTCAAAGGACATCAGTAACTGCAT GGCCAAAGCATACCCACAGTACTACAGAAAGCCGTCAGTGGTCAAGCGGATGCCGGCCATG CTCACTGGACTCTGTCAAGGCTGTGGCACTCGGCAGGTGGTGTTTACTAGTGATCCTCATAA AAGTTACCTCCTGTGCAATTCCAGTCACCTGATAAAGCAGAAACCCAGCGTGGAGACCCGT CTGTTATTTCTGTCAATGGCACTGACTTTACCTTCCGAAGTGCAGGCGTCCTCCTTGTTG TGGATCCGTGCAGCGTTCCATTCCGCTTGACGGAAAAAACGGTTTTTCCTCTTGCTGATGTC AGTCGCATTGAAGAGTATTTAAAAACAGGCATCCCTCCAAGGTCCATTGTTCTGTTGAGCAC AAGAGGAGAAATAAAGCAGTTAAACATTTCACACTTACTAGTACCTCTGGGATTAGCCAAACC AGCTCATCTTTATGACAAAGGGAGTACCATATTTTTGGGATTCAGTGGAAACTTTAAACCATC **ATGGACTAAGCTATTTACCAGTCCTGCTGGACAGGGCCTTGGGGGTGCTTGAACAATTCATAC** CTTTGCAGCTGGACGAATATGGTTGTCCCAGAGCCACCACTGTCCGCAGAAGAGACCTGGA **ACTGCTAAAGCAAGCTTCAAAAGCACATTAGAGACTAACTGTAACTTAAGTGCTGGGGGAAA** AAAAATGTGAACTAACTTATTTAATTTATGGCATTTTAAAATGACACTGTTAACCCAACGGAAC CATTTTCCAGTTTGATACAGAATGGGGAGAAAAGAAAGCGTTTGAAATTATTGCTTGGATACC **AGCTTCATGCACCTTCTAGTTGTACAAAATGTTAAAGACGTTGTTTTGTATTTGTAAGGCTGGT GTATTCAGAGAGCAGATCTCTTATTCCTCACTTTCCACCCCCGTATTTTGTAATGACCATGAG** CAATGTTTTTACTTTTTGTATAATGGGGTGGGGTGGAGTGGGGGGCTTCTGAGAGTCAGCCTG **AGGTCTTTAGAGGACCAGCTATTGTAGCACCTTGGATACTTGAAGTTTAATGCTCAGTTGG** TCGGGTGGCAGTTGACTTGGTGGCTGGCATGTTCAGCAGTGCCTGGGGCCCTGTTTCTGGG CAGCCTTTGAGGATTTTCTATGATATTGAATGACAGTTTTAAGTGGCAACTCAGGCCCAGCTC ATGCCCTTTTTTGCCTGGACATGTGCTATTTTTATTCACTTATATCAATTACTTGTAAGGGT TAAACTTTCAAACAGGAAGTATATTGGGACAAAAGGGCTCTTGGGGATTAGATATCCCTTTAA TCTGTGACCATTGGGCAAAAAATTTTCCTGCAGCAAAAGTCTGAGGCTGTTGGGACCATTTT TGCAGCTTTAATCCTTAGCCTCTTTTGACTGTATATTTGTGTTTAAAATGCAGAGCTCAACTGA ATATTTCCTTTTTGTTTTGTTTTGTTTTTAAGAAGTAGGTTGTTTTCCTGAACCGTAAAC TTGTATCATTTTAACTTGCACAAAGGAAGTCTGTTCTTGGTATTGCTCTTGCACTTGGGTTTTT TGTTATTGTTTTGTGGGATTTTTTAAAGCTTTTCTGTTCACCCTCCCGCCAGGAAAATCCCA GAAAGCTTAATGATACCCCAAAATGATTACACCCAGGGAGGAAAAAAAGGAGCGCTTTCTAG GGTCAGAATCGTGGAGAGAATACTCAGAAATGAACCTCTTTAAAGCCTTGCAGGAATGAGTC

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Table 4

acacacatgcacgcaaaACaaaTTGCAATAATGTGATAAGTTCTTTAAAAGaggtaaGAGcaaC gtGCTTTGGGAGCAGAGAAGAGGGAGAAAGcagcatcttgcctggatGAGCCAGGGGACACAgaagag AAGCCCACTATCTCATTTAATCTTTACAaCtCTCTTGCAAGGTTCCCTGGTTgtgAAAATACATG AgaTAAATCATGAAGGCCACTATCATCATCCTCGTCGTTGCACAAGTTTCCTGGGCTGGACCG TTTCAACAGAGAGGCTTATTTGACTTTATGCTAGAAGATGAGGCTTCTGGGATAGGCCcaGAA GTTCCTGATGACCGCACTTCCGAGCCCTCCCTAGGCCCAGTGTGCCCcttcCGCtGTcaATGCCA TcTTCGAGTgtcagtgtctgattggtctgacacgtccaaggatctcccctacacactctctagcctcaaacacaaatacccaataag atgagctttagacc >544

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GGCCGGTAAGGAAAGTGGAGTGAGGGAAGCAGGGTAGGTGGAGGTGTGAAAGGGAGAAG
GGCCTCATCTCAGGGTGGCTGGACCTGCACCAGCATCGGCCTGCATGAATGTGCTCCTACT
CTTGCCCAGGCTGAGTATCAAGAGAAGCAAGAAATCTAGATAAAAATCCAAATCCAGAAACA
TCAGCGTTTTGAGGTTAACATGTTGGCAATTATTCAGCNNNNNNN

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Table 4

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caccgcagtgGCCGGCCGGCCGGGCAGGTACTACAATGATTCTGAAGCACAGTGTATTC AGACAGATACAGTGAACCAAGTGCAATATGTAAGGATGAAAGAAGAAGAGATGACAAAGAAA TATGTGTAGTGTTTTCATGCTACCTTGGTAGGAAACTTATTTACAAACCATATTAAAAGGCTAA TTTAAATATAAATATAAAGTGCTCTGAATAAAGCAGAAATATATTACAGTTCATTCCACAG AAAGCATCCAAACCACCCAAATGACCAAGGCATATATAGTATTTGGAGGAATCAGGGGTTTG GAAGGAGTAGGGAGGAGAATGAAGGAAAATGCAACCAGCATGATTATAGTGTTCATTTAG ATAAAAGTAGAAGGCACAGGAGAGGTAGCAAAGGCCAGGCTTTTCTTTGGTTTTCTTCAAAC ATAGGTGAAAAAACACTGCCATTCACAAGTCAAGGAACCCAGGGCCAGCTGGAAGTGTGG AGCACACATGCTGTGGAGCACACATGCTGTGGAGATTGCAGTGTGTCTGAGGTTTGTGTAG **TAGTGGAAGATTTTAGGTATGTAGAGCAAGTTGAAAATGGATTGAGACTGCATGGTGGCATA** AAACAGGTTTGTGCCATAAAGTATTTTTTCAAAGACACCAAGATGTGGTAAATGAAAATTATTA GTTCACTTCCCTGCTGCCATGAAACTTTGCCTTAAGAAGGTGCTGGATTCCAAGGTTTGTAA AGGCATCTCGGTAAAGACTGCTTTTTGAATGCATATGATTTTGCATCAGCTAGACTGAGTTGA TTGACCTAGTAGTATAAAACATGAGGCTTTAATGGTACTTTGCTATGAAAAGAAAACACTGTA TTCCTTATGCAAAACACATGTATCTTTCATTATTTATAAGTGGCCTCTCTTAGCTCAGTTACTC AATTCATACGTAGTATTTTTAAAATAATTTTATATCTGTGTACCACCCCATATATTTCATATTA TTAATAGGCTTGAGCACCGGGTGGCAGATGTTCTATGCAGTGTGGTTCAAGTTTCTTTGACC GCACTTATATGCATTGCTAATATGGAATTTAAGATACCATACACAGTCTCTCATGGACCTATC TCTATTGTAGAATTATGACTTATGTCTTACTTGCCAAATTTTTCTGAATGTGACCTTTTTTTGCT GATTTGCTGGGTTTGGGATTAACTAGCATTATTTTGCCACCTTTATATTGTATTTATAAAAAAA AAGTACTATCAATCATACTACTTTGGATTGTTGTGCTGGTGTAATGTGGATTTAACATCAATAA **ATATTTGACAAATAAAAAAAAA** >553

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TCTCTTCTGGATGTCTACTTAAAAATCCCATGTGGT
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Table 4

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Table 4

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CTCTGTATTTATAATCTTTTATATGTCCTATTGTGGCTATTATGCTTAAGTAAAATAGCTAAAG AAAAAAAAGAAAAAAAAAAACAGAAAAGATGACAATATCATAAAAATGTAGCTGTCTATTTTGG CAGCTATATTGCAGAATTTCTTGACTATCTTTTAATCAGCTGGGAAAAAGTCAATAACTGTAT GCAAATGAATAAACTGTCCATATCAAAATACAAAAGTACTATCAATAATCACCTCTGACTTTCA GATTTAAATTCAGTGCAATTGACAAATGCATCACTAAAGGAAAATGCAGCTTAAAAGATACTC AAAACATTTGTGTCTATTCCTGGGAGCACATTTTAAAATTATTGCACAGATTTTTTAATTTTTA TTTATTTTTTTAAACAATAACAGAGGTCAACCACAGATGTGGACCTCCAGCAATAAAAGCAG GAATTCAAGTGCCAGATACTCAGCATATTAGGTTTCCTACGTAAGTCACAGGGTAATATGTTC TAAATATCTCTAATGTGATCCAAAACCCTAAAAAGAGCTGGCACAAAACCATCGTGAATGACT GCCTCTCTTGATGTAAATTTTTAAAAATATTATTACAGTATCATAGTCCCCACTAACAACAACT TACCCTACCTTAGTAAAACCAAGACTTGCTTCAATCAATGCTGTTTTGTAAAAATAGCAAAGC AACGAATGCTGAAATCAATCAAAGCTGCATTACTTGGGTTAAATCAGTTTCTACTTAGAACAC AGGTTAAAATTTTAGTACTAAAAGGCCTCAAAATAATTAGTGACAGAAATAGTGTTATTAATTT GCTAAGCTCAACAATAAGCAATTCCTTAATTAAAATCTTCGAGATATAAATTTGATGACTATTC TCTTCAGAAATGACATACCTGGATTATGTTAATCATGACAAGCCTTATTAGTCACACATATAAA CATGGCCTCATGCAATCATTTGTCTGTATATGTTACTCTAAGTTGCATGAGCACAAGGTTTAA TATCTATATCTTTAAGAAAAT<u>ACTTGATATTATAAACAGAGTAAAAGACATGATATAGT</u>AGTG TTÄČTÄÄAAAAAAAAAATTAGCAGCTTAAATCTATCTATATTTGAAAAAACGTAGTCACAAGT ACCACAAATGCAGAATCAGAGCAGCAGGAAGAAGGTTAGTGCAATTATACTTTCATTAAAAAA AACTAAGGTAGCAAACATTTTGCCATGTAATGGCAGTGTTATATGCCGTTATCTTGCTTTGTA TAAAGAAAACAACATGAGAGATTTTTAATACTGGAGTTGGGTTACATTACATATTTAAGCTTCT **ACACAGAATGATGGACACTTCGAGAAGCTAATCCTTATCCAGAAACANNNNNNNN** >602

caCGCGTCCGCCCACGCGTCCGcccgCGTCCGCGCCCCGCCcatacCGCCgaGGCTG TCCCGCTCGCTCCCGCGCCCTCGCCCCGCGCAGTTTTGGGCCTACACCTCC CCTCCCCCGCCAGCCGCCAAAGACTTGACCACGTAACGAGCCCAACTCCCCCGAACGCC GCCCGCCGCTCGCCATGGATGCCGGTGTGACTGAAAGTGGACTAAATGTGACTCTCACCAT TCGGCTTCTTATGCACGGAAAGGAAGTAGGAAGCCGAATGGTGAGAGTCACCATTCGGCTT CTTATGCACGGAAAGGAAGTAGGAAGCATCATTGGGAAGAAAGGGGAAGTCGGTTAAGAGGA TCCGCGAGGAGTGGCGCGCGGATCAACATCTCGGAGGGGAATTGTCCGGAGAGAATCA TCACTCTGACCGGCCCCACCAATGCCATCTTTAAGGCTTTCGCTATGATCATCGACAAGCTG GAGGAAGATATCAACAGCTCCATGACCAACAGTACCGCGGCCAGCAGGCCCCCGGTCACC CTGAGGCTGGTGCCGGCCACCCAGTGCGGCTCCCTGATTGGGAAAGGCGGGTGTAAG **ATCAAAGAGATCCGCGAGAGTACGGGGGGGCGCAGGTCCAGGTGGCGGGGGATATGCTGCCC** AACTCCACCGAGCGGGCCATCACCATCGCTGGCGTGCCGCAGTCTGTCACCGAGTGTGTCA AGCAGATTTGCCTGGTCATGCTGGAGACGCTCTCCCAGTCTCCGCAAGGGAGAGTCATGAC GTGCAGCGACGCTGCGGGCTACCCCCATGCCACCCATGACCTGGAGGGACCACCTCTAGA TGCCTACTCGATTCAAGGACAACACACCATTTCTCCGCTCGATCTGGCCAAGCTGAACCAGG TGGCAAGACAACAGTCTCACTTTGCCATGATGCACGGCGGGACCGGATTCGCCGGAATTGA CTCCAGCTCTCCAGAGGTGAAAGGCTATTGGGCAAGTTTGGATGCATCTACTCAAACCACCC ATGAACTCACCATTCCAAATAACTTAATTGGCTGCATAATCGGGCGCCAAGGCGCCAAGGCG CCAACATTAATGAGATCCGCCAGATGTCCGGGGCCCAGATCAAAATTGCCAACCCAGTGGA AGGCTCCTCTGGTAGGCAGGTTACTAACACTGGCTCTGCTGCCAGTATTAGTCTGGCCCAG TATCTAATCAATGCCAGGCTTTCCTCTGAGAAGGGCATGGGGTGCAGCTAGAACAGTGTAG GTTCCCTCAATAACCCCTTTCCAAACCAACAACTTTGTCTTAATCCAGCTATGTTTGCTAATAA ACGAAATGCATGCACTTCCCACATATATACTTCACTGAGCCTCTGCATTCAGTACCTGGCAG TGAAAAAGTATGCTTTCCCCACAAGTCAGTACTGGAGAATAAAAATGAGAACTCCAACTAAAG AACAATGCCTCCTTCACCCCAGTAATGTTATCCACATTTTCCCTACCCTCACATTAGAATAAA GACATCCTCCCAACTTTTCATCTCCTATCTCCAATCTGTTCATAGGAGATATATCTTTTGATCT TTTATTATAAGGGTAGAATATAGATTAAGATCATCAAAATCCAATTTCACATGTGGCACTAGG AAAATGGAATGCTATAAAATTAATCCCCATCACCCAAGTAGGGATGCTGGTGCTTTTATACTG

atatgatagcacacaaaaqtgtaaatttctggcaacactgggctggaatatttgcatgggccacagcgtatggagcagggtt $ta agga catt tgagacctec ctgtgttettetetttgtettgggat ageet tggettttgggaagtgttete \underline{aagaggeaagtgacatttgagee}$ cciacagiqqctcaggiqtqaaqicttqqqcttttcccctgtggacttggagtgaagccttgtcagtgactgtaatgaccaaatgaggagtta ttttagcttgtgtttgttactatCTtctGTcatgttaagggcATCTTCGTTGCTAGAGtaatttcTTCTAAAATATGGAAG **ACTTGCTCAAGTGCAAAAGTTATATTTAGCTTCAGCAATAGGAGTCTATAAAACTGTGAGAGA** AAAGCCTTACTAACTGAAGTCATCCTTCAAACCTTTCTACCAGGGGTTCCAATAGCAATTGCT AAGAATACGGCAGCTTAAAAAAATTTTTTTTCAATTGACAGATATTAAGAATGCCTGATATTTA CTGACTTGAACATTAGTTAAATTCAGTTAGGGTGACCAGAGTGTTGCTATTTGTAGAACTGTT TGCTTAATTAATGGTCAGTAAGCATTCAGTCAGAGTTCGTTTAATACATGGAGAAAGATATAT GCTTTAGATCAAGGGTTAGCAAACCACTGCTTGTTTGGGCCACGGCCTGTTTTTGTATAGTG TGGGAGCTAAGAGTGGGTGGTGTACATTTTTAAAGGGTTATGACAACGACACAGAATAATAT GAGACACAAACCCTATGTGGCCCATAAAACCTAAAATTCTACTGTCTGGCTCTTCACAGAGA **AAGTTTGCTGATCCCCGCTTTAGATAATGGGGGTGCTCTACTACTCCCCTTTTCATTTATAGT** CAAAGTGATTGCCAGACATACACATGAAGGCCTTGAATTAGAAAGCAAAGGAACTGATGATG ACCAaTGTTTAACAAAATTCAGaCTGACTTTGTgCCTGATCCTTCAAaGgctagaggTGATATTTTT GGTACctgaaACGTAATTTccttGAtaagTACTCTTTGCCCAATTATTGCTTATCAGCTGAGATATT AATGTCTGAATTATTCAGCTCATATATCTTCAAGCACTCAACTAGTTCATACTTTGAAATCAAT TCTAATAGACAATTCTCATAACACCTTTATAGTCTTCCCATTTAAAAGGTAAATGTTGTTAGGG CTGGAGGGGTAAGATGCACCCTTGGTATATTGTCTGATCTCAGCAGAATCAACTACTTGGTA GTGTAGTCCAGAGAAAATGGGTCAAATCTATTAATTATTTTAGGATTTTGAAATTCATAATTGA GACTCGTGACTTAATAGTGAACTGCTCATGGTACTTTACCCAGTCTTCAAGTTGTATGCCTTT TGTAGGTAGGCATTTAGATGGGATGCTTTTGAAAGCATAATTAAGAAACTTTACTTGAATTTT GTTTATAATGGGCTAATGTTATTTTCTTATAGTTTGCAGTGTTGATGTGGGTATTTACCTATGT TGGTGCCTTGTTTAATGGTCTGACACTACTGATTTTGGGTAAGTCTACAAAGCCATTGGGAT GAAAAATTGCTGGAAAGATTGTGTGCCAGGAGCTTAGACATTTTAGTGGAGAATATTCTCATT GTATGAAAAGTAGGGGATGAAAATGTGGGCCGGGCGCGGTAGCTCATGCCTGTAATCCCAG CACTTTGGGAGGCCAAGGTGGGCGGATCACCTGGGGCCAGGAGTTCGAGACCAGCCTGGC TAACATGGTGAAACCCCATTTCTACTAAAAATAGAAAAAATTagCTGGGCGTGGTgGCGCACG CCTGTAATCCCAGCTACTCCGGAGGCTGAGGCAGGAGAATCACTTGAGCCCAAGAGGCAGA **GGTTGCAGTGAGCGGAGATCGTGCCATTGCACTCCAGGTTGGGCAACAAGAGTGAAACTCC ATCTCAAAATAAGTTTGAGGTTGTATTCTCTTTAAATAAGTTGGTGATACTGCTTCCCGGTTTA** GGGTGGCTTTATATGATGGTGCAGTCATAAATCTAACCAGGGATACCTTTATTTTATGAAATC TCACTGTGATATGATTTGAAGCTAGAAATGGTTCCTAGCTCTAATAACTGCAGCCTCACACAG TTCATTCATTCCTCTGGAGTGGCTCCTCAACAGCAGATGCATCCAGAGATCCTTATGTTTTTA TTCATTCATTAGGAACACTGCTTGGTTATCTTGAGTTGCCAGTTTAATAGTTTTTTGAGTGTTT ATTCCTCCCAAATCATTCCATTCTTTTTGAAAAGTTGTATATTTCCCTTTTCAGCTCTCATTTCA

AATTTCCAAGTGATCTGAACTAAAAATAGTTTCTTAGTAAGTGTAATATTAATTTTAGT TCAGATCACTTGGAAATTAGGGGAACTAAGGGAAACTGCAAGGGTAGAAGCAAAGAAACTAT TTTTGTTAATTATACTGAGCAAAGTTTGCTCCAAATGAAAAGTCATTACGAACTATGTATAGTA CCCAAGAAAAGGTCAAATTGAGTCAGAAGACTGTAAGTACCACTTTTGGCGCTCCAGAGATA AACCTTGTACACACTGCAGTAGAACAGTGAGTCGAATATATGAGCTATAAATAGATATCATTG TTAGTCTGGATAGCTCTGTGTTGAAATACTTTTTTAATGCAGATAAAAATTATCAGGAAATTAA CCTTATGGCACAGACCAAATACTTAGTGCATGGCTGAGTTTCTACAATTCAAGGAGCCAAGA AAATAGGTTCAAGATGGAATATAGTACATGCATATAAGGCAGATGCACACATGCTGGTTACTT TAAGATTGTGTGTGTTGATTAGTCACAATGATAGACTATAACATGAGACAATACAAAGTTACA TTTTTGGACCATATTAAAACTGCAAGAAGACAGGGGTCTTACTGAAGATCTTTTAGAAAACTT AAATCCTGTCACAGGATATTTAGACATGTGTAGAATGTAGCTCAATTTTTAAAAAGTAACTGA CCTAGAGGGTGAAAGTTGAAACTGACACATTTTCAAATTAAGATTATGCTTATTTTGTACAGA AAACAATGTTTAAACACAAGCAGATCTGTTGTATGTAATAAGTAACACAGAGTTTTAAAACAAA ACTGTTACGTGGACACTTTCTATGTTAGTTTTGATGCATAATTCTTTGAATCCTTTTATACAAA CTAGAATGTATGTGTAAGAATACCTGTCCCTGCAATGTAGTAACTACAAACTTATTTTTAAATA >605

GAGTCGACCCACGCGTCCGGGACGCTGGCGGCTCCGCGACGAGCTTTGTTTTTTC GGTTGGGCATGCTGCTTACCGCAGGATGATGGAAGCGACGGCCCGTACAAAGACAGAAGC GTTGGTTTCACTGAGTCAGTGCTGATTCTCTCAAATAGAGCTTGAAGGATAAATCTTCATTTT TGTTTCAACAAACTTCGAAACAAAATGGAAGAAAATAATCTACAGTGCAGTAGTGTGGTTGA CGGTAATTTTGAAGAAGTTCCCAGGGAGACGGCAATTCAGTTTAAACCTCCACTATACAGAC AGCGGTACCAGTTCGTTAAAAATTTAGTGGATCAACATGAGCCTAAGAAGGTTGCAGACCTG GGATGTGGTGATACTTCACTCTTAAGGCTGCTAAAAGTCAATCCATGCATTGAATTGCTTGTT GGAGTAGATATTAATGAGGATAAATTACGATGGAGAGGGGATTCGTTAGCTCCTTTCCTGGG **GGATTTTCTGAAACCTCGGGATCTGAATTTGACCATCACATTGTATCATGGCTCCGTTGTGG** AGAGAGACTCTCGTTTGCTTGGATTTGACTTGATAACGTGTATTGAATTAATAGAACATTTGG ATTCAGGTGATCTGGCCAGATTTCCTGAAGTGGTATTTGGGTACCTCGGCCCAAACTCGCTG AGCAGGCTGAGCGATATGATGGTATGGCTGCAGCCATGAAGGCAGTCACAGAACAGGGGC ATGAACTCTCCAACGAAGAGAGAAATCTGCTCTCTGTTGCCTACAAGAATGTGGTAGGCGCC CGCCGCTCTTCCTGGCGTGTCATCTCCAGCATTGAGCAGAAAACAGAGAGGAATGAGAAGA **AGCAGCAGATGGGCAAAGAGT** >606

AATAAAGAATAAAATAAAGATTGCATATGTACAATGCTATTCTTCCTTGGGAAAATGACAGAAT TATAAAGGATTTCAATGGGCTAATTTAATTTTTAATCTATATTTGCAGGATTTGCCATGTACGC AACATAGTATAACTTATAGTCAAGGATTAAAGGAAACTGCATTTTTTCAATTACTTTAGGTAC CAAATCATATTAAGAACATTCAGTGTAAGGtaaaatagacctgAGGTATGTTATATGAGTGGGTAG GCATTTTCATTTAGTCAGTCAATTAAATCAACTTTCAAAGCAAGTGAAATTATATTCTTATACTA CAATGTAAAAAGTCTAACATACAAAATCAATGCTAAGAGTAACATTTTCTTGGAAATAACATTA CTTTTATAAATAAGCTGATGCAGATCAATTTCACATTTAATAACTTATAAAAACAAAGTCAGTG TCTTAGAAAGGAAGATAAATGAACTTATCTTCCATATGCAATATGTAAATACGTTAATTCAGAC TAATTGTTCTATTTTTGTGTAGTATCTTTGTATAAACTAAGCATTTTTAATTGAACAGATTTCTA TTAAGTATTATCAAATTGTTTCTCTATGTACAAATCTAATTTTGTTGTGATCAACAGAAAGTTT GTTTAGCATCACTTTTCAAGTGGTCCTTTTGCAAGAAACAAAAATATTAGCTTCTACTTAATAT ATACATCAGTCTTATAAACCATTTTATATTAGTCTTTTACAATACTCATTTGATGCTAGACATAC ATTAACAATATGCAGTAAGTTACAGAGTGTAAGACGTTATTTTTACTAGTGTTATTAACGTGTA CCACCTATGATCAGGAGCAGCTTCATGTTTAAGAAGATAATGACAATGACAATGATTACTGTT **ĀCAĀCAACTACCACTGCTTCTACTATCAACACATGACTTTTTGGGGGGAGGAAAATTCTACACT** TTAAATTTCTTTACCGTATACATAAAACAATAACAGACATTCTGTTGACTTTGGCAAATAAACA AGTACACGTAAACAATTGTTTTATATAGTAGCTTAATTTCTATTTCTTTTCAAAAATTATCTCAGT **GTAATTAAAAACTGGGCAAATAACAGGAATTTAATTCTAAGGGTATTATAAATCTCAAGCAATA** TTCATCTCTGAAAATAAGTTCACAGTCCAAAATCAAAGAAAATGCGATGTTCATTTTTAGGCG **ATCAACATTCCATGAGTCATAAATTATTTTGAAATGAGGAAAATTTCTAATGAATAAAAA** AATAATATTGAAAGTACCTGCCCGGGCGGCCGGCCGAGGTACGAAATTGGGATGACATGAA **ACACCTGTGGGACTACACATTTGGACCAGAGAAACTTAATATAGATACCAGAAATTGTAAAAT** TTGAAACTTACCAGTTTTCCGGTGTATATGTAGCCATCCAGGCAGTTCTGACTTTGTACGCTC **AAGGTTTATTGACTGGTGTAGTGGTAGACTCTGGAGATGGTGACTCACATTTGCCCAGTA** TAGATATCTTATCAAGCTACTTCTGTTGCGAGGATACGCCTTCAACCACTCTGCTGATTTTGA AACGGTTCGCATGATTAAAGAAAACTGTGTTACGTGGGATATAATATTGAGCAAGAGCAGA AACTGGCCTTAGAAACCACAGTATTAGTTGAATCTTATACACTCCCAGATGGACGTATCATCA AAGTTGGGGGAGAGATTTGAAGCACCAGAAGCTTTATTTCAGCCTCACTTGATCAATGTT GAAGGAGTTGGTGTTGCTGAATTGCTTTTTAACACAATTCAGGCAGCTGACATTGATACCAG ATCTGAATTCTACAAACACATTGTGCTTTCTGGAGGGTCTACTATGTATCCTGGCCTGCCATC ACGGTTGGAACGAGAACTTAAACAGCTTTACTTAGAACGAGTTTTGAAGGGTGATGTGGAAA AACTTTCTAAATTTAAGATCCGCATTGAAGACCCACCCCGCAGAAAGCACATGGTATTCCTG GGTGGTGCAGTTCTAGCGGATATCATGAAAGACAAAGACAACTTTTGGATGACCCGACAAGA GTACCAAGAAAAGGGTGTCCGTGTGCTAGAGAAACTTGGTGTGACTGTTCGATAAACTCCAA AGCTTGTTCCCATCATACCCGTAATGCTTTCTTTTTTCCTTTATTGCCAATCTTTGAACTCATT CAACTCCAGGACATGGAAGAGGCCTCTCTCTCCCCTTTGACTGGAAAGGTCAAGTTTTATTC TGGTGTCTTGGGGAAGCTTTGTTAAATTTTTGTTAATGTGGGTAAATCTGAGTTTAATTCAACT GCTTCCCTATATAGACTAGAGGGCTAAGGATTCTGTCTGCTGCTTTGTTTCTTCTAAGTAGGC **ATTTAGATCATTCCTGTAGGCTTCCTATTTTCACTTTACTGCTCTAATGCTGCTAGTCGTAGTC** CATTTCCTCTGTAATGTGGCGCTTTCAACTGTACTGCTGCAGCTTTAAGTACCTTAAAGCTTC CGGGGGGGGGGGTAACAATGGGTGGTCTTCTGATTTTTATTTTTGAGGTTTTTGTCAACTGGA GTACGTAGAGGAACTTTATTTACAGTACTTTGATTTGGCAGGTTTTCTTCTACTTGTGCTCTG CCTGGAGCTGTTTCCATATGATATAAAAAGCAAGTGTAGTATTCCATTACTATGTGGCTTAGG GATTTATTTGTTTTTTAAAATCAACCATGTTAGCTGGGATTAGACTCCCTACAGTCCTTCAATG GAAAAGTAACATTTAAAAATCCTTTGGGTAATTCAAATTACAGATTTAAAAGAGCTTAAGATCT GGTGTTTTGTTAATGCTTCTGTTTATTCCAGAAGCATTAAGGTAACCCATTGCCAAGTATCAT

TCTTGCAAATTATTCTTTTATATAACTGACCAGTGCTTAATAAAACAAGCAGGTACTTACAAAT **AATTACTGGCAGTAGGTTATAATTGGTGGTTTAAAAATAACATTGGAATACAGGACTTGTTGC** CAATTGGGTAATTTTCATTAGTTGTTTTGTTTTGATTTGAAACCTGGAAATACAGTAAAA AATCATAACTGTTAATTCTCAGCCATCTTTGAAGCTTGAAAGAAGAGAGTCTTTGGTATTTTGTAA ACGTTAGCAGACTTTCCTGCCAGTGTCAGAAAATCCTATTTATGAATCCTGTCGGTATTCCTT GGTATCTGAAAAAATACCAAATAGTACCATACATGAGTTATTTCTAAGTTTGAAAAAATAAAAA GAAATTGCATCACACTAATTACAAAATACAAGTTCTGGAAAAAATATTTTTCTTCATTTTAAAA CTTTTTTTAACTAATAATGGCTTTGAAAGAAGAGGCTTAATTTGGGGGGTGGTAACTAAAATCA AAAGAAATGATTGACTTGAGGGTCTCTGTTTGGTAAGAATACATCATTAGCTTAAATAAGCAG CAGAAGGTTAGTTTTAATTATGTAGCTTCTGTTAATATTAAGTGTTTTTTGTCTGTTTTACCTCA ATTTGAACAGATAAGTTTGCCTGCATGCTGGACATGCCTCAGAACCATGAATAGCCCGTACT AGATCTTGGGAACATGGATCTTAGAGTCACTTTGGAATAAGTTCTTACATAAATACCCCCAGC CTTTTGAGAACGGGGCTTGTTAAAGGACGCGTATGTAGGGCCCGTACCTACTGGCAGTTGG GTTCAGGGAAATGGGATTGACTTGGCCTTCAGGCTCCTTTGGTCATAATTTTAAAATATGGG AGTAGAAAACAACAAGAATGGAATGGACTCTTAAAACAATGAAAGAGCATTTATCGTTTGTC CCTTGAATGTAGAATTTGTTTTTGATTTCATAATTCTGCTGGTAAATGTGACAGTTAAAATGGT GCATTATGTATGTATATTATAATTTAGAAATACCATTTTATAATTTTACTATTCCAGGGTGACAT AATGCATTTAAATTTGGGATTTGGGTGGAGTATTATGTTTAACTGGAGTTGTCAAGTATGAGT CCCTCAGGAAAAAAAAAAAAAAATTCTGTTTTAAAAAGCAATCTGATTCTTAGCTCTTGAAA CTATTGCTACTTAAATTTCCAATAATTAAAAATTTAAAATTTTTAAATTAGaATTGCCAATACTT CTACATTTGAGAAGGGTTTTTTTTAGAAATACATTTaqtAAAGTcCcCaAGACATTAGTCTTACAT TTAAACTTTTTCTTTAAAACATGgttTTGGtGGTTAACTTTTACACAGTTCTGAGTACTGttAATA TCTGGAAAGTATCTTGAgatatCagtGGAAAGCTAAAcagtCTAAATTAACATGAAATACttCATTTT **GATTGagaaAATAAAATCagaTTTTTTTCAAAGtcaaacc** >607

NNNNNNNNATCGCACCATGGGACGTTCCTACGTACGCGCGAATTGAACATCTAAG CTGTTCCCCCCACTCGAGCAGATCATACCAAGACCGCCGAAATTCGTATGCCAACATATCGA AGTATCAGTCGCGGACCGGACAAGCCCGGATTCGCCATGTACGGGCAGCTGTCCGGGCTG CTTTCGCCTCCGCCTGTGGATGCTGCGCCTCTCCGAACGCAACATGAAGGTGCTCCTTGCC GCCGCCTCATCGCGGGGTCCGTCTTCTTCCTGCTGCTGCCGGGACCTTCTGCGGCCGAT GAGAAGAAGAAGGGCCCAAAGTCACCGTCAAGGTGTATTTTGACCTACGAATTGGAGATG **AAGATGTAGGCCGGGTGATCTTTGGTCTCTTCGGAAAGACTGTTCCAAAAAACAGTGGATAAT** TTTGTGGCCTTAGCTACAGGAGAGAAAGGATTTGGCTACAAAAACAGCAAATTCCATCGTGT AATCAAGGACTTCATGATCCAGGGCGGAGACTTCACCAGGGGGAGATGGCACAGGAGGAAA GAGCATCTACGGTGAGCGCTTCCCCGATGAGAACTTCAAACTGAAGCACTACGGGCCTGGC TGGGTGAGCATGGCCAACGCAGGCAAAGACACCAACGGCTCCCAGTTCTTCATCACGACAG TCAAGACAGCCTGGCTAGATGGCAAGCATGTGGTGTTTTGGCAAAGTTCTAGAGGGCATGGA GGTGGTGCGGAAGGTGGAGAGCACCAAGACAGCCGGGATAAACCCCTGAAGGATGT GATCATCGCAGACTGCGGCAAGATCGAGGTGGAGAAGCCCTTTGCCATCGCCAAGGAGTAG GGCACAGGACATCTTTCTTTGAGTGACCGTCTGTGCAGGCCCTGTAGTCCGCCACAGGGC TCTGAGCTGCACTGGCCCGGTGCTGGCATCTGGTGGAGCGGACCCACTCCCCTCACATTC TGGGTTTTTTTTTTTAATAAAAAAAAAAAAAAAAAAGGGGACAATAAGAAAGGTACCCAAT TCGCCCTATAGTGAGTCGTATTACAATTCACTGGCCGTCGTTTTACAACGTCGTGACTGGGA **AAACCCTGGCGTTACCCAACTTAANN** >608

>609

NNCGCCGCCGGACCGCCCCCCCCCCCCCCGAGCAGCAGGCACTGTCATTA GCTTCCTGGACGGGACCCGGGGCGGGATCCTGGTGTCCTGAAAGGGGCCCGGGCGACCC TAAGAGGAAGAACTTTTGGGGGCGGGGTCCCCGGTCCCGCGTCCCCTGGGCAGCCGCTAT TGTCTACGCGCCTCGCTGGGCGCGCGGGGGGGGCGTGATCGCGGCGCCCCGGGCTCTGG GTGCGGAGACCCAGGCGGGGCTGGGCCCAGGGCGGCGGGGGAAGCCGGGGAAGCC GAAGAGCCTGGGGAGGAGGAGCTGCGAGCGCGGGAGACGAGCAGGAGCCGCGCGGGCC TTTCCTGCCTGCGTGAGCGGCGTGCCCCGCGAGCGCTCCGCGACTTCCAGCACCA CAAGCGCGTGGGCAACTACCTCATCGGCAGCAGGAAGCTGGGCGAGGGCTCCTTTGCCAA GGTGCGCGAGGGGCTGCACGTGCTGACCGGGGAGAAGGTGGCCATAAAAGTCATTGATAA GAAGAGAGCCAAAAAGGACACCTATGTCACCAAAAACCTGCGGCGAGAGGGTCAGATCCAG CAGATGATCCGCCACCCCAATATCACTCAGCTCCTTGATATTTTAGAAACGGAAAACAGCTA CTACCTGGTCATGGAGCTGTGCCCTGGGGGCAACCTGATGCACAAGATCTATGAGAAGAAG CGGCTGGAGGAGTCCGAAGCCCGCAGATACATCCGACAGCTCATCTCTGCCGTAGAGCAC CTGCACCGGGCCGGGTGGTCCACAGAGACTTGAAGATAGAGAATTTGCTACTAGATGAAG ACAATAATATCAAGCTGATTGACTTTGGTTTGAGCAACTGCGCAGGGATCCTGGGTTACTCG GATCCGTTCAGCACACAGTGTGGCAGCCCTGCCTACGCTGCACCTGAACTGCTCGCCAGGA AGAAATACGGCCCCAAAATCGATGTCTGGTCCATAGGTGTGAACATGTATGCCATGTTGACC GGGACGCTGCCTTTCACGGTGGAGCCTTTCAGCCTGAGGGCTTTGTACCAGAAGATGGTAG ACAAAGAAATGAACCCCCTCCCCACTCAGCTCTCCACAGGTGCCATCAGTTTCCTGCGCTCT CTCCTGGAACCGGATCCTGTGAAGAGGCCAAATATTCAGCAGGCACTGGCGAATCGCTGGC TTAATGAGAATTACACGGGCAAAGTGCCCTGTAATGTCACCTATCCCAACAGGATTTCTCTG GAAGATCTGAGCCCGAGCGTCGTGCTGCACATGACCGAGAAGCTGGGTTACAAGAACAGC GACGTGATCAACACTGTGCTCTCCAACCGCGCCTGCCACATCCTGGCCATCTACTTCCTCTT AAACAAGAAACTGGAGCGCTATTTGTCAGGGAAATCTGACATCCAGGACAGCCTCTGCTACA AGACCCGGCTCTACCAGATAGAAAAGTACAGGGCCCCCAAGGAGTCCTATGAGGCCTCTCT GGACACCTGGACACGAGATCTTGAATTCCATGCCGTGCAGGATAAAAAGCCCAAAGAACAA GAAAAAAGAGGGGATTTTCTTCATCGACCATTCTCCAAGAAGTTGGACAAGAACCTGCCCTC GCACAAACAGCCCTCAGGCTCGCTTATGACACAGATTCAGAACACCAAAGCCCTCCTGAAG GACCGGAAGGCCTCCAAGTCCAGCTTCCCCGACAAAGATTCCTTTGGCTGCCGCAATATTTT CCGCAAAACCTCAGATTCCAATTGTGTGGCTTCTTCTTCCATGGAGTTCATCCCCGTGCCAC CGCCCAGGACCCCGAGGATTGTGAAGAAACCGGAGCCCCATCAGCCAGGGCCCGGAAGCA CTGGCATCCCCACAAGGAAGACCCCCTGATGCTGGACATGGTGCGCTCCTTCGAGTCTGT GGATCGCGACGACCACGTAGAAGTGCTGTCTCCCTCTCATCACTACAGGATTCTGAACTCCC CGGTCAGCTTGGCTCGCAGAAATTCCAGCGAGAGGACGCTGTCCCCGGGTCTGCCATCCG GAAGCATGTCGCCTCTCCATACTCCTTTGCATCCAACTCTGGTCTCTTTTGCTCACGAAGATA AGAACAGCCCCCAAAAGAGGGGGCCTGTGTTGCCCACCTCCGGTTCCCAGCAATGGCC CCATGCAGCCTCTGGGGAGCCCCAATTGTGTGAAAAGCCGAGGCCGGTTCCCTATGATGGG CATCGGACAGATGTTAAGGAAGCGCCATCAGAGTCTGCAGCCATCTGCAGATAGGCCCCTG GAGGCCAGCCTGCACTGCAGCCCCTAGCCCCTGTGAACCTTGCCTTTGACATGGCCG ATGGGGTCAAGACCCAGTGCTAACTTGGGCCAGCGGGGTTTGGGGTATCTCTAGAAAACAG CAACTGAACAGAGCTCCACACATCTGTCAGGGTGTGAGCACTCCAAGGCCTCGCGTGGAGC ATCCTTAGTCCCACCTGTAGCTGAATCCACAGACCCAAAGCCTGCACAACCCAACCTCGCTT AGGGACCCCAGAGATGCTGGAATCGCTAGGAGGGTTGGCTCCAGGGGCAGCCAATTCCT ATCATTCAGATCTTCCTTCCCCAAGTACTCACCAACCCCTTCCACTTCCCACTTCCCCCAG GCTTGGGGGAAAACAGGGCATGAGCCTTCTGGGGCACTCAGATTATGGACTGTTACCAGA TCTTTCTTCACGCTGTGCTACATGTGTGCCTCTCACAGCAGTTGGCCACAGTTACAGGGAGA GAACAATATCACAGTCATTCATCCAGGCCACGTTTCCTCTGCGGAGTGTAGCAGCCCTGCCT TTCATAGCAGGGATTACCTGAAGGCCAGCAGGAGCCGGGGGCCAGGATCCTCAGA GGAAGATGGAGAGGAGCTTCGGACCAAGATCAAACCAAACAGTGGGGACCCCAACAGAAG AGAAAGACTGAAGGAGACACTCATTTCCCAAGCAAGATTTTGATAGATTTTTGTTGTTGTTGT **AATTGAAATAACATAATTTTTTÄÄÄÄÄCTTGGATGGAGATGAGAAGCAATTCCACCAÄÄCTC** ATGTTTTCACAGGAGGGTTCAGTGTGGAGAGCAAAAAAGCTGACTGTGGTGATTTGCTGAGT

Table 4

GCTGTGGCCCACAGGCAGGCAAGTCTCGGTGGCCCTGTGTTCATCCTGTTGTTTAAGGCA TAGCCCTGATCCTTCTGGAAGGCATAGAACACGGTTACAGCTGGTTCTGTAGAAAGAGGGGA AAAGATGATTGTGACAATTCAGAGCATAACTCAGATGGCGAGAAGGCAGCATTATCTCTGTG CGATGCTGATTTCAAGCTGCCCACAGAACTGGTGCGGCTCAGAGCTCGGCGAGTTTGCTGG GAGCTGGGAGCAGGCTTGCCTGGCAGAGAACCTGTTCAGATACAGGCCAGTTTCTTCTCG AGGAAAGCCAAGCTCCTCAAACAGGGTTCAGTCCACGTTGTGTTTTCACACCTTTCTCCAAG GATCGAACCAAAGATGTCTCCAGTATTGTGTCTGTGCCCCTGTGTGTTTTTGTGGACAG CCGTGTTGTCTGACTGTATCCAGCTGGCACTTGACAGGGTGCAGTCATTGGTGAGAAGAAT CAGAAAAAGAAGACCCATCAGCACAGGTTGGATAGGGGTTAGTGTAGGAGACCAGTTACAG AATGGCCTGGAGTCTTCAACTTTTGACCGGTGCAGGTGTGACCAGAGACCACCTCTGTGGC CACCTCAGATAGTCATCTCAGTCCAAGGATCCCAAAACACAAATCTAGAATTGCAAAGCCAG CCTTTATTTCCCTGGCAGGCAGCCTTGCCAGAAGGCAGAGAGGCAGTTCTGAATCATTCTCT CATTCACCAGTGGTGACATCCTTCAGTCCCTCACATCTCTGACAGAGCGGGACAGAATGGAT ATTTGGCTGACCTTGGTGAGACCTGGAGCTGCCTGTTTCTTCCCTAGGGGATCACCACGGC TCTAGGGCATTCTAGGATGAGGTCAGACCCCTTGGCCATTGGTGTTATTTTTTGTATAGCTTC AGACTGGGTTCCAGAACTTACCATTGAAAACAGAGCTTTTAGGCCAGGTGTGGTGGCTCACA CCTGTAATCCCAGCACTTTGGGAGGCCGAGGCAGGTGGATCGCTTGAGCTCAGGAGTTCGA GGTGTGGTGCTGCCTGTAGTCCCAGCTACTTCGGGGACTGAGGTGGGAGGATCACTT GAACCTAGGAGGTCGAGGCTGCAGTGAGCCAAGATCATGCTACTGCACTCCAGCTTAGGTG GCAAAGTGAGACCCTGTCTCCAAAAAAAGAAAATAGAGCTTTATAAGCAGAGAGAAGAAAAT AATCATCTAAGACCATCTCCATTCGACATGAAGTGTACCTTTTCTAAAGACGGTTTCCAGC TGCAACGGCTCCACTTTGCAGGCTTGCAGGGTGTATACCTGCGCATTGGGAACTTGCTGGA ACCCCTGATGCATTTTCCTTGAGAGCAGGGGTACTTCCGCCTTGCCGTTAGCTTGTGGAGAA CGTGCTTCTTATTCCTGGCAGGCTTCAAGAACAGCTGCACATGTGCCGCTAACTGACCGCGT TGCCATTGGCGACCTGGACTCTGAACTCAGGTTTATTCTAAACCCAGTGAGAGGTGAGGGG CTCGACTCTCCCTTTGGTAAGTCCGAAGCATGTTGTCTGTTCGACCGTGACTGTCTTCCTCA **GTCTGTGCCTGTGATTCCAGTCACCCTGTAGTTACTGACAGAAATTGACTGGACTGTCATTG** TTATGTCACCATTATTAGATATATGTACTTTTGTAATGACTGTGAAATACACTTTTCCCTCACT ACGACTGCTTCTTTATTTGCTGATAAATCTTAAAACAACTAAGTACGTTGCAAATAATAGTACA GGTACCATCTTTATGTGAAGTTCTTTTTCTTTTTTGAGACAGGGTCTTGCTCTGTCACCCA GGCTGGAGTGCAGTGGCACAATCACAGTTCACTGCAGCCTCAACCTCTCCAGATTCAAGTG ATCCTCCCATCTCAGCCTCCCAAGTAGCTGGGACTACAGTTGTGCACCACAATGCCTAGCTA ATTTTTTTGTATTTTGTAGAAATGGGGTTTCGCCATGTTGCTCAGGCTGATCTCAAACTCCT **GGGCTCCAACGATCTGCCCACCTTGGCCTCCCAAAGTGCTGAGATTACAGGCGTGAGCCAC** TGTGCCTGGCCTTATGTAAAGCTCTTGACCTAGCATCTGACTGGAAACAAGCGGGAATTGCA TTGGGGGGCATTTTCTGGGCCAGTTTCCCTGCCTTATTTTACCTGCAATAGGTGTGCCTACA AAAGTCTTTCTGACATACACACTGCAGGTGGCAGTTCAAGAAGAATCAACCTTTTTCATTTGG **GGATATTAGGATCTTCCTTGGAGACTCTGAAAATGGCACACAAAGAATGGCAGTTATGAACG** TGACTTCTAGATTTTGTCCTTGTAGGAGGCCTTGGTCATGGATAGGGGAAGAGGGATGATG GGATGGAATGGGAGGGTGGGATCTAGATGACCTCTTGAAATTGTCCCAGTTACTGCTTCCTT CATAACTGTTCACAAAACGTTTTTCATATATACCACCTTGTTTCCCCTGGGAAGTGAGGGGAC GAAGCCTTAGAGGGTGACATAGCTAGAAAGTGGAGAAGCTCACTGTTCACTGTGCAAAGCC CCAGTAGTCGGATTCCGGGGAAAAGAACAAGTATCTAGTTTTGATGACAATGTTTTCTTGTAA GAATCCCAACACTTTAGAATAGAAAAGGACCTAAGATTCTCTGGCTCAGCCCCAGCCTTTCT GAAGAAGGGAAAACTAGGGACCCAGATGGTTTAAGGACACCCCAGAGTCCCCAGATGAGCT GGCATTTGAGCTGGTCTGGAGCAGAGTTTCTCCCTCAAAGAACACAGAGAAATCAGAGAGT GGCTGCCATGGTCAGAGGGGGATGTCAACAACAGATCAAGCCGTCATCACAACAGGTATTT CTGAAGTTCCTGCAGGGACTAGGTCTTGCATTTTTAAGTCCTTTTCAAAACTGTGCAGCTTCC **ACTCTGTCTTCTCAGTTGACTTCCCAAGTAAGCAGCAAACCCCTGGATAGCCTTGTTATCTA** CTTTAGGTATTAAGAGGCTATTGGGTTTTACTAGATTAAATCAATAAAACATTTCCTATAGAGC CATATCATACACTGAAGCAAATTCAGAAAGAATGCAAAACTGCTATCTTTTGGGGGAGTCTG

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>612 CCCAAACAGGTCTTTTTATTTAACATAAGGCCAAAGAAGCTATCAGGCGTTGCTGAATACTGT CCACTAACTGTACAAAATATTGACTGCATGCCTCGCAAACACCCAAAATATCCGCTGGAATGC CATAGAAATAAATAACTTCTGCTATAAACACATGAAAACATATCAAACTGTTATCTCTTTAAAC TTGAAATGCACTCATATAAATTAACAACTTTAATTACATTAGCCAAACAGACATTGGTTAAAGA TAGAAACAAACAAACAACAACATCAACCACAGAACATAAAAAGTTTTAAAATAAAACAGGCT TCAGATTATCTTGGCTTTCATAATTATATTTTTCTTTTAAAGAAAAATATCAACCCATTGTCAAT GCACTGTTTTCAAAGCATTTAAATAGAGGGTAAAACCCTTTGGAAATTAATACAGAAGAAAT GATTCACTTTATGCATAAAAAATAAATAATAATATAGCTGAGACATGTGGTTTGCTTCTGCTCT TGAAGATGTGAACAGCTTCTAAGCATTCATTTTCTCTGACCCATACAACAGCTTCTCAGTGAT ACAGGGTTTAATTTAAACACATACAATGTCCACCCCCAAACCTTCTGCCCACATCTACAAGTT TTATTTATTTTGTGGGTTTTCAGGGTGACTAAGTTTTTCCCTACATTGAAAAGAGAAGTTGCC AAAAGGTGCACAGGAAATCATTTTTTAAGTGAATATGATAATATGGGTCCGTGCTTAATACA ACTGAGACATATTTGTTCTCTGTTTTTTTAGAGTCACCTCTTAAAGTCCAATCCCACAATGGT GAAAAAAAAAAAAGAAAGTATTTGTTCTACCTTTAAGGAGACTGCAGGGATTCTCCTTGAAAAAC AACTCAGTGTGCTGAAATTCACCTGACTTTTTTGGAAAAAATAGTCGAAAATGTCAATTTGGT CCATAAAATACATGTTACTATTAAAAGATATTTAAAGACAAATTCTTTTCAGAGCTTCTAAGAT TGGTGTGGGCAGATTTTTAAGAGCCTAGAGTTTAGTCTTAGAGAAAGAGTGAGGAGATAGTA **AGGTTAGATAGAGCCACTGAGTTTCAAGAAAAAACATACTACTAAGAATCCCATATGTTATA ATTTAAAGCCTTTACTTTTGGCCTCATGCTGCTAGGTGAAAGAGTGGTTGTTCACAGGACTTG** TATTTTCCAAGATGATTAAAGATGGTAAAATACTATCTTTCAATGTTATCAAAAAAATGGTAGCA **ACTTATACTTCTATTTCAAAGCCATATAAATTTAACAAAATTAAAGTTTGTGGGTGTTTTGATAA** CCCAATCACTCAATATCCAATTAAAATATGGAATAAGTTTCAAATAAAATATGGAATTACATTT CTCTGCTTCTGATAACTGTGGTCACTAATCAACCCCCATGTTATCCCCGATATGTCTAGGACT TAGCTTAAAAAGATAGCAGATGTATTTGAGATGAGTGGGAACTATACATGGGTATCAGCTTTC TTGGTAAATTTCTGCTTTTTCCATGGCCTTGACCATCTTTGCTACTGCGCAGTGAACCAGGAC TTAATTTCTCACACTGTTTCTGCAGGTTCCGGTACCAAAGAAGATGCAGTTCAAAATACTGCC AGTTTTCCAAGAAATTTTGTAAAGTTGAACATGGCCATCTACTCTTGCCTTAAAACTTTTCTCA CCACACCCACCTTCCCACATGCATGATATCCAAGGTCGACAGACCTGGATTAGAATCCACTC TCAAGCTTCTCATGCAGTGCGTATTGTATTTTCTGCATAAGAAAGGGCTGCCTCTAGAACACA GTAAGTGTATTTGCCCAGTAGTGACATTGCCTACATATAGCCAAGTGTTATAGTATACCAACT TAGTATATTTTCAAGGAGAGCTAAACCACCTTTTGTAATGTTTGGTTTCTCACTGTTATCTTC CTTTCCTATAATTAATTTATTTTAATCTACAAATTGACATAGGGCTAAAAGCTTCAATATTTTAC AAAATATTAATTAATGTAATTGTTCCCAATTATTAGAAACTTTTTTCCATTTTTCAAAATGTTTG TTATTAGCTATTCCAGGCAAGCTAAGTACTAGAATAAACTAGATAAAACTTGGCTTTAAGCA

TGTACTTTGATATTTATAAAACAAAGGTGTTTTTTTTTCATTTCTGCATCTGAATCAATACAAAT TTACACATGAAGAATTTTGGCTGTAAATTAAAATTTTAGAGATTTTTACTACTGCCCTCACCTC TGCCTCCTCTTAACACTTTCTCTCAAATTAATTAT CTTTTAGTTAGTGATGACACTTATTTTTCCCAGCTGGTACAGGTAATATTTTCTCACAACCAAGC CTTAATCATTTTTAAAAAATACACTCAACTCTAATTCTGGCCTAAATATTTTTTCTGAAAAAG CTTCTGATTTAAGATTGATTCCAATAGACACTAAGTTGGAAAAACATCAGCCCAGAGTTTTGA TTATCATCCTGTTTTCCCCACAGGGGATAACTTGTAGAAGTGGGAGGGGCACAAAAAAGAGG AGGAAATTTCGGACGCGTGGGTCGACTCCCTATAGTAGN

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ACGGGTCGGGGCCTCTCCCTCTCCCTGTCCCCACCCCAGCGCAGCAGCCCTCCCCGCA **GCTAGCAGCGAGGGCACCTTGTGATCATGTTGTTAAAATTATGAATCTGATTTTTATGATGAT** AAAATAAAAACCCACAAAAATGTTGAACCAAACCTCCCTGCTAATCTCCATGCCCACGTTCTT TCCCACCCTGTTCCCAGTCTTCTGACAAACTGTGTACATAGCGGACTCCTCCTTTCTCCTCC GAGGTGGTTTTAAAGGCTTTTTGGTGTATAGAAGTTTGTCCATTTGTAAAACTCCGGATTGCG TTCCTCCCCCCCTTCCCTTCCCTTCCCTAAAGTGATGGGCTTTCTCTTTTCTCTTTTA GTTTACCCGGTTTCTTTTTAAGTAATGTGGAAGAAAATGGTTTATTTTGTATTGTGGTATTGAA TATTGTGTTCCTTTTTATGAGGCAACCTGATTGTAAACTTCATGTAACTATAGACTGGAAAAAA CACCACCACCACCACCACGCTTGTGAATGTATTTTTCTGTTAGCTGGGTTTACATGTGATGTTTT AGTGCTTTTGCAAGTTCAATTTGTTAGTTCCTGTATGAAAGATTGTGGGGGGAAAAATAAACGT CGTGCCGTTAGCTTTTTCCGTAATAACACCCTTCCTTCTGTAAATACCCGTTACCATATTTATC CATTTGTAATTAAATTATGGTATTAACTTGCTACAGAGGAAACAATATTTATAAAGAATGTTTC TTAACTATAAATATGTACAATTGTGGGCATAAACTGTTTCAGATTTTTTATTTGAAGGTTTTAA GTGGTTTGATCATTTCTTGTGATGTTTTGAGAGTAATGCATACAGAAATATAATAAAATGTGTT GAAACTGCATGAACATAAAAAAAAAAAAAAAAAAAAGTCGACGCGCCGCGAATTTAGTAGTA GTAGGCGGCCGCTCTAGAGGATCCAAGCTTACGTACGCGTGCATGCGACGTCATAGCTCTT **CTATAGTGTCACCTAAANNNNN**

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NNGCAGACAGTGACTTCGATGCTAAGAGCAGTGCGGATGATGTAATAGAAGAAACT AGAGTGAACTGCAGAAGGGAAAAGGTCATAGAGACCCCTGAGAATGACTTCAAGCACCACA GGAGTCGTAACCACTCTCGTTCACCTAGTGTAGAAAGAGGGCAACAGTACGGCAAGAAGAA GAATGAGAAAAGAGGGCTGCTGCGCTGGAAGCATGTTTGGATGTAACCAAGCAGAAAGATC TCAGTGGATTTTATAGGCACCTATTAAATCAAGCAGGTGGTGAAGAGGAAGTACCTAAATGC AGCTTTCGTGAAGCCAGATCTGGTATAAAGGAAGAAAAATCAAGGGGCTTCTCCAATGAAGT AAGTTCAAAAAACAGAATACCACAAGAGAAATGCATTCTTCAAACTGATGTGAAAGTAGAGGA AAACCCAGATGCAGACAGTGACTTCGATGCTAAGAGCAGTGCGGATGATGAAATAGAAGAA ACTAGAGTGAACTGCAGAAGGGAAAAGGTCATAGAGACCCCTGAGAATGACTTCAAGCACC ACAGGAGTCAAAACCACTCTCGGTCACCTAGTGAAGAAGAGGGGCACAGTACCAGGCACCA CACGAAAGGATCACGAACGTCGAGAGGACATGAGAAAAGGGAAGATCAGCACCAGCAGAA ATAGGCACAGAGAGGCCAGTCATAGAGATTCCCATTGGAAGAGGCATGAACAGGAAGATAA ACCAAGGGCGAGGGACCAAAGAGAAAGAAGTGACAGAGTATGGAAAAGGGAAAAGATAG GGAGAAATATTCCCAAAGAGAACAAGAAAGAGATAGACAACAAAATGATCAGAACCGACCCA GTGAGAAAGGAGAGAAGAGAAAAGCAAAGCAAAGGAAGAGCATATGAAAGTAAGGAA CTTCAGAAAGAAATCAAGACAGAAAGGAAAGCAGCCCAAATTCTAGGGCAAAGGATAAATTT GAAACCCTCTAATTCTGAATCATCACTGGGAGCAAAACACAGACTCACAGAGGAAGGGCAA GAGAAGGGTAAAGAACAAGAGAGACCACCTGAGGCAGTGAGCAAGTTTGCAAAGCGGAACA ATGAAGAAACTGTAATGTCAGCTAGAGACAGGTACTTGGCCAGGCAGATGGCGCGGGTTAA TGCAAAGACCTATATTGAGAAAGAAGATGATTGATGGCTACCCCAAGAGAAAGATTTAAGGA

Table 4

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CCCACTCCGGACGCCGCACAACCAAACACCACAGCCCCAACCACN

CGACCCACGCGTCCGCCTGAGCCGGCGGAGGAGACAAAAACCGCCGCGACCC CGGCAGGGTGGGAAGTGCAGGGCAGCGCTCCCAAGACACGCTTGTTGGAGGTTCGGGCCT GGGTGCTTGGTTGTCTGAGCCTCCTTTTTTGTGTTTGCCTGGGTCCCTCGTGGCCGACGGA ACAATGAAGGATTGCAGTAACGGATGCTCCGCAGAGTGTACCGGAGAAGGAGGATCAAAAG AGGTGGTGGGGACTTTTAAGGCTAAAGACCTAATAGTCACACCAGCTACCATTTTAAAGGAA **AAACCAGACCCCAATAATCTGGTTTTTGGAACTGTGTTCACGGATCATATGCTGACGGTGGA GTGGTCCTCAGAGTTTGGATGGGAGAAACCTCATATCAAGCCTCTTCAGAACCTGTCATTGC ACCCTGGCTCATCAGCTTTGCACTATGCAGTGGAATTATTTGAAGGATTGAAGGCATTTCGA** GGAGTAGATAAAATTCGACTGTTTCAGCCAAACCTCAACATGGATAGAATGTATCGCTCT GCTGTGAGGGCAACTCTGCCGGTATTTGACAAAGAAGAGCTCTTAGAGTGTATTCAACAGCT TGTGAAATTGGATCAAGAATGGGTCCCATATTCAACATCTGCTAGTCTGTATATTCGTCCTAC ATTCATTGGAACTGAGCCTTCTCTTGGAGTCAAGAAGCCTACCAAAGCCCTGCTCTTTGTAC TCTTGAGCCCAGTGGGACCTTATTTTTCAAGTGGAACCTTTAATCCAGTGTCCCTGTGGGCC **ACGCTCATCTCTTTTTGCCCAATGTGAAGCAGTAGATAATGGGTGTCAGCAGGTCCTGTGG** CTCTATGGAGAGGACCATCAGATCACTGAAGTGGGAACTATGAATCTTTTTCTTTACTGGATA **AATGAAGATGGAGAAGAAGAACTGGCAACTCCTCCACTAGATGGCATCATTCTTCCAGGAGT** GACAAGGCGGTGCATTCTGGACCTGGCACATCAGTGGGGTGAATTTAAGGTGTCAGAGAGA GCTCTGGTACAGCCTGTGTTGTTTGCCCAGTTTCTGATATACTGTACAAAGGCGAGACAATA CACATTCCAACTATGGAGAATGGTCCTAAGCTGGCAAGCCGCATCTTGAGCAAATTAACTGA TATCCAGTATGGAAGAGAGAGAGCGACTGGACAATTGTGCTATCCTGAATGGAAAATAGAG GATACAATGGAAAATAGAGGATACCAACTGTATGCTACTGGGACAGACTGTTGCATTTGAAT TGTGATAGATTTCTTTGGCTACCTGTGCATAATGTAGTTTGTAGTATCAATGTGTTACAAGAG TGATTGTTTCTTCATGCCAGAGAAAATGAATTGCAATCATCAAATGGTGTTTCATAACTTGGT AGTAGTAACTTACCTTACCTAGCAAAAATATTAATGTAAGCCATATAACATGGGATTTTC CTCAATGATTTTAGTGCCTCCTTTTGTACTTCACTCAGATACTAAATAGTAGTTTATTCTTTAAT AAAATTTCATAGGTTACATTTCCTGCAGCCTATCTTTATCCACAGAAAGTGTTTTCTTTTTTTA AATCAAGACTTTTAAAACTGGATTTCCTCCCATCACTGTTTTTTGAAGGTCCTCCAAGTCCGT **GTTAAGGTAAATATCTGTTTTCTTCCTGATGTCACAGCCTGAGCATACTCTGTGCATTAGGAA**

Table 4

GCGACTACAAGACTGAGGGTCTTGTGCCTTATAGATCTTTGTATCCCCCATGGCTGACACAT AGTAGGTACTCAGTAAATGGTTTTATAATGAATCAGTGAACATTTTGCTTCTATAGAAGTGTA GATTTACCTTATATTGTCTTTATTTTCCATGAGCTACTAAGTCATTAGAGATACTCTGAAGCAT **AGTTAGTTTAGGAAATCACTTCATATTGATTGTATTAGAATTATCTTGGAATTGAAGATATATC** CCTAGAGCAGGGGACCCCAACCCCCAGGCCATGGGCCACACAGCAGGAAGAGGTGAGTGG TGGGCCATTGAGGAGCTTCATCTGTATTTATGGCTACTTCCCATCACTCGAATTACCACCTGA ACTCCACCTCTTGTCAGCTCAGTGGCAGCATTAGATTCTCATAGAAGCACAAATCCTATTGTG AACTCTGCATGCAAGGGATCTAGGCTATGCGCTCCTTATGAGAATCTAATGCCTGATGACCT GAGGTGTAACAGTTTCATCCTGAAACCACCCTTCACCCTGCAGTCTGTGGAAAAATTGTCTT CTTTTTTTTTTTTTTGGTAGAAAACAAAGAGGCATACTCTGATTTTTATACTCTGTTTTTGCA GGTGCTCTTTCTTTGAATGGAGATTTGATGAGCAAGTGGTTAGGATGCAGGGAGAGCTACT ATGGGTGATATTTTCCTTGTTTAGGAGCTGTGAGTTAAAATTGTATCCTTTCTGGTTTATCTAA GGAAAGTCAAATCTTGACAGAAAACATTTTTCCTTGGAAGGTCAACTCTCAGACATTGTATTT TGGTTTCCCTCAGTCCTCATAACTTCCTTCTTGCTGAACATATTTTATTCTCTTTTCAGAGAAG GAAAATAAAAAGGATTCTAAAAGTTTGATGCATTGGAAAAATTTCCTTGAGGCATTTAGCAAC ACATAGAAAATGGGCTTTGATTCTTTTCCAAAACTTTTAGCCATAGGGTCTTTTATAGACAGG GATAGTAAAATGAAAATTGAGAAATATAAGATGAAAAGGAATGGTAAAAATATCTTTTAGGGG GCTTTTAATTGGTGATCTGAAATCTTGGGAGAAGCTGTTCTTTTCAGGCCTGAGGTGCTCTT GACTGTCGCCTGCGCACTGTGTACCCCGAGCAACATTCTAAGGGTGTGCTTTCGCCTTGGC TAACTCCTTTGACCTCATTCTTCATATAGTAGTCTAGGAAAAAGTTGCAGGTAATTTAAACTGT ACACATTTATACTTTGCATCTCCAAATTTATTGCGGCGAGACTTGTCCATTGTGAAAGTTAG AGAACATTATGTTTGTATCATTTCTTTCATAAAACCTCAAGAGCATTTTTAAGCCCTTTTCATC AGACCCAGTGAAAACTAAGGATAGATGTTTAAAAACTGGAGGTCTCCTGATAAGGAGAACAC AATCCACCATTGTCATTTAAGTAATAAGACAGGAAATTGACCTTGACGCTTTCTTGTTAAATA GATTTAACAGGAACATCTGCACATCTTTTTTCCTTGTGCACTATTTGTTTAATTGCAGTGGATT AATACAGCAAGAGTGCCACATTATAACTAGGCAATTATCCATTCTTCAAGACTTAGTTATTGT CACACTAATTGATCGTTTAAGGCATAAGATGGTCTAGCATTAGGAACATGTGAAGCTAATCTG CTCAAAAAGATCAACAAATTAATATTGTTGCTGATATTTGCATAATTGGCTGCAATTATTTAAT **GTTTAATTGGGTTGATCAAATGAGATTCAGCAATTCACAAGTGCATTAATATAAACAGAACTG** GTGGCACTTAAAATGATAATGATTAACTTATATTGCATGTTCTCTTCCTTTCACTTTTTTCAGT GTCTACATTTCAGACCGAGTTTGTCAGCTTTTTTGAAAACACATCAGTAGAAACCAAGATTTT AAAATGAAGTGTCAAGACGAAGGCAAAACCTGAGCAGTTCCTAAAAAGATTTGCTGTTAGAA ATTTCTTTGTGGCAGTCATTTATTAAGGATTCAACTCGTGATACACCAAAAGAAGAGGTTGAC TTCAGAGATGTTCCATGCTCTCTAGCACAGGAATGAATAAATTTATAACACCTGCTTTAGC CTTTGTTTTCAAAAGCACAAAGGAAAAGTGAAAGGGAAAGAGAAACAAGTGACTGAGAAGTC TTGTTAAGGAATCAGGTTTTTTCTACCTGGTAAACATTCTCTATTCTTTTCTCAAAAGATTGTT GCAAGAAAGCAGAGCGTAAACATCAGCTAGATGGTAACATGCAATNTCAGCTCTCTTGAAGA **CATGGGAAACCTAAGNN** >620

NNAGTGTATTTATTAACATGACTAATATTTCATATTTTATTTTGTTAGAAGATTAATTTG
TAATCATTGTACCCTGTAGATTTTGAAACAATTTTACTAGAAAATTACTAATGCTGGTTCTTGAG
TAACCTAAAAAATTGTATTTACTCAAATTTAGAATGCTATTTATAGTTCTAAGCAGTTAGATGA
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CACAACAAATGTGATCCTTTCACAGCAGGTCTAAAGACCCTCAGAGGCAACAAAGCATAAGT
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ATCATGAGGCCAATGATTAGATTTAGTTTTAATGTTTAATGCACATAAATTGACATACAACA
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GATAACTTAAAAATGAAAAAATTTCAATTTACACATATTATTTTAAAAATAGTACATTCTAATTT TTATGAGACATAGATATGTATTTATAAAAAGGTAGATGGAAAGAGAAAGAAATTAACTTAATTCT AAGAGCCAAATTTACTCAGAAGGTTTAGAAACACCCAAAATTAACAGCCAGTTTTCTTGATTTT CTTCTTGAAGAAGAGATTGGTGTTGACTTATGGTGAGATATACTATGGCCTTGAGAGGCAGT TTCAACTTGAAAAGAAGATGCAGGTTGAGCAATCGGAGAGGACTTCAAAGAAGCTGATGAGC CCTGCAGAGGTATAAACTGATTGTGCACACCCCCTGGTATTCCCCCAGCCATGGGCATGGT CCCAGAATATAAAGTATGATGGAAGGGCTTCCCAGGAACTGGCACCGATGGTCCCCATGGC **ATTGAGCCAAAGAGATGAGACGACGAAGGCATTATATTAGCTGTTGGTGGGGCCAAGGAAA** ATTTTTCTTTAGTATAATGGTATCATCAAAGCTCTGAAATTTGAGACCTCCTTCTGCTAGCCT CTTACAACATTCAACCTCAGGGATCCTTTCCTAGGGACTGTGTGGGACTATCCACACGGAAT **GGAATTTATCATTATACTGGGCCTGAAAAGGGAGGAATACTACTACTTAATATCATATGCTGA** TACAAGGTTTAGGGGGNTATTTGCAATTATATTTATAAAAAAAANTAAAGGGGGCAGAAAACCG NCCCCNGTGAGGNGGAAGCNNN

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NGCCTTGGTGGCCATAGGCTTCTCTTTAACCAGGAAAAAGATATGCATGTGCTGTAA GTCCCTAGGTGCAAGCTTTTTCTTGTTATGTTTTAAACAGCTTTATAAACTATTGTTCATAGAA GATATTATGTACATTTATTTCAGATAAAGGACAATAAGTTTACTTTGTATCTGAACTCAAAACA AAGTAGTTGTATATTTTAACATTCAAAATTGGGATTTCCCAATGTGACACATCATGAATGCAAA CCCCTCCAGCCCATCAGACGCCAGGCTGCCTACTGGTAATCTGTGTATAGTATAAACATG GTTCTTCATTGCTTTTCTGTTCACAGTTGTGGCTCTGTTTTTTAAGAATGTAACTTGTTTTTAG ATTATACTTGCATCTGTGACTTTACTACCAGCCACGTTGACACAAAACAGGTTCTGGTTCAGG TAAAGTTGCGTCAGTCACCTGCAGCAGAAATCCCTCTTCATTCCTCTCTGTGTTCATTCC TCTTCTGTGCTGTTCTGAAGCTTCTACCAATACTCTTTCCATATTGTCTTTTTCAGTGAAGAGA **AATGCATTCAAGATTAGGTCCCTCCTGTCTATCCAGTTTCAGGATTTTATGTTGTTTTATACAC** AGTTATTTCAGTATAGAAACTGGCTTTATTGCCAAGTGTTTTTTTAAACATGTTTTAACTCTCA TATGAGCAAACTGTCCAACTTCAGTTTTCATAAGATTAAACTTCTTACGATCAAATTTGTCTC TTGCAATGATGTGATGAGTTGCCAAATAATTGAGATTATTTTAAAATGTTTTGTTCATATTCTT TTACCAAAAAAAAAAAAAAAAAAAGATCTTTAATTAAGCGGCCGCAAGCTTATTCCGCTATAG **TGA** >623

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Table 4

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ACGCGGGGAGACACACACCCCTCTGCCCACCTCTGCTTCCTCTAGGAACACAGG AGTTCCAGATCACATCGAGTTCACCATGAATTCACTCAGTGAAGCCAACACCAAGTTCATGTT CGACCTGTTCCAACAGTTCAGAAAATCAAAAGAGAACAACATCTTCTATTCCCCTATCAGCAT CACATCAGCATTAGGGATGGTCCTCTTAGGAGCCAAAGACAACACTGCACAACAGATTAAGA AGGTTCTTCACTTTGATCAAGTCACAGAGAACACCACAGGAAAAGCTGCAACATATCATGTT GATGCATATGAGCTGAAGATCGCCAACAAGCTCTTCGGAGAAAAAACGTATCTATTTTTACA TGCTCCAGAAGAAGTCGAAAGAAGATTAACTCCTGGGTGGAAAGTCAAACGAATGAAAAAA TTAAAAACCTAATTCCTGAAGGTAATATTGGCAGCAATACCACATTGGTTCTTGTGAACGCAA TCTATTTCAAAGGGCAGTGGGAGAAGAATTTAATAAAGAAGATACTAAAGAGGAAAAATTTT GGCCAAACAAGAATACATACAAGTCCATACAGATGATGAGGCAATACACATCTTTTCATTTTG CCTCGCTGGAGGATGTACAGGCCAAGGTCCTGGAAATACCATACAAAGGCAAAGATCTAAG CATGATTGTGTTGCTGCCAAATGAAATCGATGGTCTCCAGAAGCTTGAAGAGAAACTCACTG CTGAGAAATTGATGGAATGGACAAGTTTGCAGAATATGAGAGACACGTGTCGATTTACAC TTACCTCGGTTCAAAGTGGAAGAGAGCTATGACCTCAAGGACACGTTGAGAACCATGGGAAT GGTGGATATCTTCAATGGGGATGCAGACCTCTCAGGCATGACCGGGAGCCGCGGTCTCGT GCTATCTGGAGTCCTACACAGGCCTTTGTGGAGGTTACAGAGGAGGAGCAGAAGCTGCA GCTGCCACCGCTGTAGTAGGATTCGGATCATCACCTACTTCAACTAATGAAGAGTTCCATTG TAATCACCCTTTCCTATTCTTCATAAGGCAAAATAAGACCAACAGCATCCTCTTCTATGGCAG ATTCTCATCCCCGTAGATGCAATTAGTCTGTCACTCCATTTGGAAAATGTTCACCTGCAGATG TTCTGGTAAACTGATTGCTGGCAACAACAGATTCTCTTGGCTCATATTTCTTTTCTCTCATC TTGATGATGATCGTCATCAAGAATTTAATGATTAAAAATAGCATGCCTTTCTCTCTTTCTCT TAATAAGCCCACATATAAATGTACTTTTTCTTCCAGAAAAATTCTCCTTGAGGAAAAATGTCCA AAATAAGATGAATCACTTAATACCGTATCTTCTAAATTTGAAATATAATTCTGTTTGTGACCTG TTTTAAATGAACCAAACCAAATCATACTTTTTCTTTGAATTTAGCAACCTAGAAACACACATTT CTTTGAATTTAGGTGATACCTAAATCCTTCTTATGTTTCTAAATTTTGTGATTCTATAAAACACA TCATCAATAAAATAGTGACATAAAAAAAAAAAAAAA

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AAGGCTACCCCTAGAAGAAGCAGGTCTAGAAGAAGTAGTATGGTCTTCGAGTAGCCTTTCAG TTCCCCACCAGAAGCTGGCAACAACCAGATAAAAACAGTTCTTCCGAGCAGTGTTTTCTA **ATACAAAGGGAAGATTCTACCTCTGAGTCTGAGGATGACTCTCGGGATGAGAGCCAGGAGA GTTCAGATGCTTTGCTGAAAAGGACCATGAACATCAAGGAGAACAAAGCCATGCTTGCCCAG** TTATTGGCGGAATTGAACTCGATGCCAGATTTCTTCCCAGTACGAACCCCAACCTCAGCTTC TAGGAAGAAGACAGTGAGGCGGCCTTCTCGGAGGGACAGATCACGCGGCGTATGAACCC **AACCCGGAGTGCGCGCCTCCTGAGAAGTTTGCTCTAGAGAACTTCACTGTCTCAGCCGCT** AAATTTGCGGAAGAGTTTTACAGCTTCCGAAGAAGGAAGACAATTGGGGGGGAAATGCCGGG AGTACAGACGACGTCACCGTATATCTTCTTTTCGGCCAGTGGAGGATATCACCGAAGAGGAC TTAGAAAATGTTGCCATAACTGTTCGAGATAAAATCTATGATAAAGTTCTGGGTAACACGTGC CATCAGTGTCGACAAAAGACCATCGACACCAAGACAGTGTGTCGGAACCAGGGTTGCTGTG GTGTGCGAGGACAGTTCTGTGGACCATGCCTGCGGAACCGCTATGGGGAGGATGTCAGAT CGGCATTGCTGGACCCGGATTGGGTGTGTCCCCCCTGTCGTGGGATCTGCAATTGCAGCTA CTGTCGGAAGGAGAGAGGGGGGGCGCAGAAGACACAAACTGGAAGAAGGTTGACATAGGA CAACAACATGCATACCATTGGTGCCTAAGATTTTTTTACAGTTGTTTTTTATACAGAAATTC TTTGTAGAAATTACTATTTTTGTTAAAGATTGTTTATATGCTTACAAAGATTTCTCAGGAAGA **AAAAATATCTGCCAGTTATTAAAAAGCACAGTTTAAATGGGGTGGGGTTAAAGTTCAGGTAAG** CAGTAACTCACTCCAGGCCAAGTGTGCCTTAGCACGAGTGACCACAGTTTAATAGACCACAC **ACATCGTTTAACCTGCTCTTGGTCATTGGAAAATTTACACTGAACAAAGTGCAATTAACTGTAG** AACAGTTTTATTTATTAAAACTTGACTGAACAAAAGGGGACCATCAACATTGTAGACACTG

GAGGCCTTACAGAGTGCTAGCCTCTTCCTTCAGGACTCACCTGGGGCCTGCTGCTTTATAT
TTTGAAAGAGTTTAANNN
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NACCAAGTATAAATATAAATTACAACCCTCCTCCTTACTATCAACGCGCCAACCCCT TTTTTTTTCCTTTAATAACGACAATTTTCATTTTTTAGGGTTCAGTTCCAGCTGATTTTATTT CCTTCTCAAAAAAGTTATTTACAGAAGGTATATATCAACAATCTGACAGGCAGTGAACTTGA CATGATTAGCTGGCATGATTTTTTCTTTTTTTCCCCCAAACATTGTTTTTGTGGCCTTGAATT AAAACCCTTAACGGAACTGCCTTAAAAAGGCAGACGTCCTAGTGCCTGTCATGTTATATTAAA CATACATACACACAATCTTTTTGCTTATTATAATACAGACTTAAATGTACAAAGATGTTTTCCA CTTTTTCAATTTTAAACACAACAGCTATAAACCTGAACACATATGCTATCATCATGCCATAA GACTAAAACAATTATATTAGCGACAAGTAGAAAGGATTAAATAGTCAAATACAAGAATGAAA CACGTTTTTGCTTATAAAAAAAGTGCAAAAAAGATGTGGTTTACAAGTTAAAGCTACAGAATC CCTTTTTGCTGTAATTGCACCAGTTTTAAAGCCTCTGGACAGAGCAGTATTTCGTTTAAAACT TTGTTTTCTTAAAAGCTTACAGTGTTTGGCTAATTCTCCTCCCCTTTTTACAAGACGGGGGC CGGAGGGTGGACACTGGTGGCAGGTTAAGGGATACTGTCACTTTAAGAAGCCTGCAGATTG AAGTGTAAACATGGAGAAATTAGGGGCTGATTTTTTAAACTGTGTGAGATATTAACCA<u>GCC</u>G CCCTGTTATAAAATCAGGAAATCCAAACAGCGATTTACACCGATTAACACCCCCTTTATATAT TTTTTACAAAAATACACTGAGAAAATAATCAAACGTTTTCATCTCTTGTCTTTTTTTGTTTTT TAAAAGTGTCAAAAGTCTACATTTAAATATAAAAAATTAAAAGTTAAAACTCTAGCCCTTCAGT **ACAAAAGAAAAATATGTTTGGCCAGTATAAATACGTCCACATATAAAATGGCATCTGATTAC** TAAAATCCAGCACAGATTTGAGTTGCGTTTGAATCCTTTAAAGAGTTAAGAATGAAAN

NNNNACGCCGGGCGCGCGCGCGGAGAAGTGCGGCGGAGCGCCCTGC **ATTAGCAGGTATGCAAAGAGCCTTTTCACCCTGATGTCCTTAGAGATAATATGGATCAGTCC** AGAGTTCTCCTCTGGGTGAAAGCAGAACCCTTTATAGTGGGTGCCTTGCAGGTCCCCCCTC CATCCAAGTTTAGTCTTCACTATCTCAGGAAGATATCCACCTATGTGCAAATCCGGGCCACA GAAGGAGCTTACCGCGCCTCTACTGGTCTACATGGAGGCACATCGCTTGTGGGAAGCTGC **AGTTGGCCAAGGACCTGGCGTGGCTTTACTTCGAAATATTTGATAGTCTTTCAATGAAGACA** CCTGAGGAGCGCCTGGAATGGTCTGAGGTTCTGTCCAACTGCATGTCTGAGGAGGAAGTTG **AAAAGCAGAGAAATCAGCTTTCAGTGGACACGCTACAGTTTCTGCTCTTCTTATACATTCAAC AGTTGAACAAGGTCTCCCTAAGGACATCTTTGATTGGCGAAGAGTGGCCCAGTCCCAGAAA** CAAATCTCAGTCTCCTGACCTGACTGAAAAATCTAATTGTCATAATAAGAACTGGAATGATTA CAGTCACCAAGCTTTTGTCTATGATCATCTGTCTGATCTCCTCGAGCTGCTTTTAGATCCAAA ACAACTCACTGCATCATTCCATCCAACCCATAGTAGTCTAGTGTCTCGAGAAGCTGTTGTGGC GCTCAGCTTCCTTATTGAAGGTACAATAAGTAGAGCCAGGAAGATCTATCCACTTCATGAACT TGCACTGTGGCAACCACTGCATGCAGATAGTGGCTTCTCAAAGATCTCTAAGACTTTCTCTTT CTACAAACTGGAAACCTGGTTGAGGTCCTGTTTGACTGGGAATCCATTTGGTACATCAGCTT GCCTCAAGTCTGGAAAGAAATTGGCTTGGGCTCATCAAGTTGAAGGGACCACCAAAAGAGC TAAGATTGCTTGTAATACTCATGTGGCCCCTAGGATGCACCGACTGGTAGTGATGAGCCAGG TTTACAAGCAGACACTGGCTAAGAGCTCAGACACTCTGGCGGGGGCACATGTAAAGATTCAT CGTTGCAACGAATCTTTTATATATCTGCTCTCTCCCTTACGATCTGTGACAATTGAGAAGTGC AGGAATAGCATCTTTGTCTTGGGCCCTGTAGGGACTACACTTCACCTCCACAGTTGTGACAA TGTTAAAGTCATTGCTGTTTGCCATCGTTTGTCCATCTTCTACAACAGGTTGCATCTTTCA CGTTCTTACGCCTACACGCCCACTTATTCTCTCTGGGAACCAGACAGTAACTTTTGCCCCTTT TCATACACATTACCCAATGCTAGAGGACCATATGGCCAGGACTGGCCTTGCTACAGTGCCTA **ACTATTGGGATAATCCAATGGTTGTGTGCAGAGAGACAGCGACACAAGAGTCTTCCAGCTT** TTACCACCTTGTGAATTCTATGTATTTATTATTCCCTTTGAAATGGAAGGGGACACAACAGAG ATACCCGGGGGTCTTCCATCTGTATATCAGAAAGCACTGGGTCAAAGAGAACAGAAGATACA GATCTGGCAGAAACTGTGAAGGAGGCTCATTTGACAAAGGATCAAAGGAAGCAGTTCCAG GTACTGGTAGAGACAAGTTTTATGAATGGTTGATTAATACAGGACATCGCCAACAGCTGGA

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GCCGCCCGGCAGGTACTTGTTAAGCCACATTTGAGGTTTATGGTAAAAATCATCTT TTGAGTTTGCTCTTTGGTTTTTCTTCATTCCTTTTGAGGATTGGGAAAACAGAAAGATTCTTTG <u>ATTTGGGTAACGAGCGCCTGTTGGTAGGAACCTGCTTGGTCGCGTCTGAGGGGGCTTGTAG</u> GTGGCTCTGGCTGAAACAGGCGCCTGCGAGAGTCTGTAGGAGGGAAACCGCCATGGACGA TCAGGGTTGCCCTCGGTGTAAGACCACCAAATATCGGAACCCCTCCTTGAAGCTGATGGTG AATGTGTGCGGACACACTCTCTGTGAAAGTTGTGTAGATTTACTGTTTGTGAGAGGAGCTGG AAACTGCCCTGAGTGTGGTACTCCACTCAGAAAGAGCAACTTCAGGGTACAACTCTTTGAAG ATCCCACTGTTGACAAGGAGGTTGAGATCAGGAAAAAAGTGCTAAAGATATACAATAAAAGG GAAGAAGATTTTCCTAGTCTAAGAGAATACAATGATTTCTTGGAAGAAGTGGAAGAAATTGTT TTCAACTTGACCAACAATGTGGATTTGGACAACACCAAAAAGAAAATGGAGATATACCAAAAG GAAAACAAAGATGTTATTCAGAAAAATAAATTAAAGCTGACTCGAGAACAGGAAGAACTGGA AACAACTGCAGCAGATTCTAAAAAGGAAGAATAAGCAGGCTTTTTTAGATGAGCTGGAGAGT CAACTTGAGAAACCCAAACCTGTAAAACCAGTGACGTTTTCCACAGGCATCAAAATGGGTCA ACATATTTCACTGGCACCTATTCACAAGCTTGAAGAAGCTCTGTATGAATACCAGCCACTGCA GATAGAGACATATGGACCACATGTTCCTGAGCTTGAGATGCTAGGAAGACTTGGGTATTTAA CACAGAGCACTACAGGATGCATTCAGTGGGCTTTTCTGGCAGCCCAGTTAACCATTTATAAG ATTTGGACCTTGGAGCTGAACCAGGGAGCTAGCAAAAGTAAAGCAGACTTATAAAATTATAG CTATGTGCAGCTGCACAACACAGTCCTTCCACTAGCAGCTGTGTTAAAGTATTTATAAGGAG CTATATGTGTTTGAGGTTGTGACAGACTTATAAAAATCTTTTTAAAAAAATAAAGCTATAATTTATA TTAAGTTCTGTGGTTTTTCTCTTATTACAGTGTTTTACTTGAACACATTTTAAATACCATTTTGA TTACAACATTTACTGTTAATANNNGNNGNNNN

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CTGCCTCAGCCTCACAAGTAGCTGGGACTACAGGGTTTTGGACTGATAAAGCAATGGAAGT
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AAAATCTGGCTTATGGAAAAAGGTGTACTGAGTGGGGAAGAACAGTTGATTAAC

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TGTCCCTCTGACTGCAGAAGAGGTGGAATTTGTGGTGGAAAAAGCATTGAGCATGTTCTCCA
AGATGAATCTTCAAGAAATACCACCTTTGGTCTATCAGCTTCTGGTTCTCTCCTCCAAGGGAA
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Table 4

GGATCCAGCCGGTGTGAAGAGGAGACCCCTTCCCTCTTGTGGGGGTTTGGATCCTGTGTTTC TAGCCTTTGCAAAACTCTACATCAGGGATATCCTGGACATGAAGGAGTCCCGCCAGGTGCC AGGTGTATTTTTGTACAATGGACATCCAATAAAACAGGTAGATGTCTTGGGAACTGTCATTGG **AGTGAGAGAAGAGATGCTTTCTACAGTTATGGAGTGGATGACAGCACTGGAGTTATAAACT** GCATCTGCTGGAAAAAGTTGAATACTGAGTCTGTATCAGCTGCTCCAAGTGCAGCAAGAGAG CTCAGCTTAACCTCACAACTTAAGAAGCTACAAGAGACCATTGAGCAGAAAACAAAGATAGA CATGCCACCGCTTACTATAAAGTGGACGACCCAGTGTGGAACATTCAAATTGCAAGGATGCT TGAGCTGCCCACTATCTACAGGAAAGTTTATGACCAGCCTTTTCACAGCTCAGCCCTAGAGA AAGAAGAGGCACTAAGCAATCCAGGCGCCCTGGACCTCCCCAGTCTCACGAGTTTGCTGAG TGAAAAAGCCAAAGAATTCCTCATGGAGAACAGAGTGCAGAGCTTTTACCAGCAGGAGCTG GAAATGGTGGAGTCTTTGCTGTCCCTTGCCAATCAGCCTGTGATTCACAGTGCCTGCTCCGA CCAAGTGAATTTTAAGAAGGACACCACTTCCAAGGCAATTCATAGTATATTTAAGAATGCTAT ACAACTGCTGCAGGAAAAAGGACTTGTTTTCCAGAAAGATGATGGTTTTGATAACCTATACTA TGTAAACCAGAGAGACAAAGACCTGCACAGAAAAGATCCACCGGATTCACTTCACGCAGG ACTCGCCAGAAAACCCACATCCCCTGGAGGCAGGGCTGCCACTACCCAGGCATTCTTGGCC TGGGTCGCCTGAACAACAGCCGGGACTGAGCCGAGGCGGGCCGCAGCAGTCCGGGAGCC **CGGGAGACCCGAGGGCCATGGCGGACACGGGCCCTCAACGGCCTCGGGGAAACACCGGA CACCGCGAN

>653

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NNNNNNNNNNNNNNACTTCTAGAATTAATTAACGCGGGGNGAAACTACAGTGCCCA CGATGCACCGCCCAGCCCGGCCGACGACGACGACTGACCCGGACTTAGGCGTTCCGCC

Table 4

TGGCCCGGCGCGAGGAAAAAGGCAGTTTTGAAGCATTTAGTGGCAAAAGGGGTAGGAG ACGGCTGCTGAAGTGTCTACTACATTCAGGGGACCTGGAAGGCTTCCAGATATCCGCAATG AACAATGAAAAGAAATTGTGAAAGAAGGCGCTTCCCTCAAGCCGGAACTAATGAACTCCTGG GTCACGTGGTGCGCACGCCCAAAGGCACACGATAAAGGAAAACGCGGGCTTATCGTGGC CTTTAAAATCCGGCTTGGTGAGCTTGGGTCGCCTCTGAAGGAGAACCATTTTCCATCTCTTT CATAGTTTTTTCCCCCAGTCAGCGTGGTAGCGGTATTCTCCGCGGCAGTGACAGTAATTGTT TTTGCCTCTTTAGCCAAGACTTCCGCCCTCGATCAAGATGGTGGTTGGACGGCCTTCCTAAC CTTTACGGGGCCTGGCGGTGCTGACGCCTGAGCTGGTAGGGGTGGAGCAGGTAGGAAACA GCAAATGCAGAAGCTGCTGCGCGGAAGTCGGCCATGGACTGGAAAGAAGTTCTTCGTCGGC GAAATGGATTTATTTACAAAATATTACTCCGAATGGAAAGGAGGTAGAAAAAAACACAAATGAA AAATTAAGAGAGGAATCAAGAGCTGTCTTTCTACAAAGAAAAAGCAGAGAACTGTTAGATAAT GAAGAATTACAGAACTTATGGTTTTTGCTGGACAACACCAGACACCACCTATGATTGGAGA GGAAGCGATGATCAATTACGAAAACTTTTTGAAGGTTGGTGAAAAGGCTGGAGCAAAGTGCA AGCAATTTTCACAGCAAAAGTCTTTGCTAAACTCCTTCATACAGATTCATATGGAAGAATTTC CATCATGCAGTTCTTTAATTATGTCATGAGAAAAGTTTGGCTTCATCAAACAAGAATAGGACT CAGTTTATATGATGTCGCTGGGCAGGGGTACCTTCGGGAATCTGATTTAGAAAACTACATAT TGGAACTTATCCCTACGTTGCCACAATTAGATGGTCTGGAAAAATCTTTCTACTCCTTTTATG TTTGTACAGCAGTTAGGAAGTTCTTCTTCTTTTTAGATCCTTTAAGAACAGGAAAGATAAAAAT TCAAGATATTTTAGCATGCAGCTTCCTAGATGATTTATTGGAGCTAAGGGATGAGGAACTGTC CAAGGAGAGTCAAGAAACAAATTGGTTTTCTGCTCCTTCTGCCCTAAGAGTTTATGGCCAGT **ACTTGAATCTTGATAAAGATCACAATGGCATGCTCAGTAAAGAAGAACTCTCACGCTATGGAA** CAGCTACCATGACCAATGTCTTCTTAGACCGTGTTTTCCAGGAGTGTCTCACTTATGATGGA GAAATGGACTATAAGACCTACTTGGACTTTGTCCTTGCATTAGAAAACAGAAAGGAACCTGC AGCTCTACAATATTTTCAAACTGCTTGATATTGAGAACAAAGGATACCTGAATGTCTTTTCA CTTAATTATTTCTTTAGGGCCATACAGGAACTAATGAAAATCCATGGACAAGATCCTGTTTCA TTTCAAGATGTCAAGGATGAAATCTTTGACATGGTAAAACCAAAGGATCCTTTGAAAATCTCT CTTCAGGATTTAATCAACAGTAATCAAGGAGACACAGTAACCACCATTCTAATCGATTTGAAT GGCTTCTGGACTTACGAGAACAGAGGGCTCTTGTTGCAAATGACAGTGAAAACTCTGCAGA CCTTGATGATACATGATCTCTGAAAGACTAGACTGTCTTATATTATGAGATACTTGAATGCTG

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GCCTGGCTTCTCTAGGCACCTGAGTTCATGGTCCTGGGTTAGAAGCTGCAGAAAGGACTGT
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Tauri Maria

GAGATCAGTTTCCTTTCTGGGAGGGACTCCTCATTGAGGGGGGTGCAGAAGACCTGCAGAC ACCAGACCTTTAGTCTCTCTTCTTCTGTTTCTTTTTGGCTTTCTGGACAGTGCTGACTCCAGC TCTTTCCTTCTTGGGATGCTGCTGCCTCTTCCTCTTACCTCTGCTGCTTGAGCCAGTGTGTG CTCTGCTCTCTGCTTCCCTAGCCCCGCTATCCTTCTCATCCCTTACATCCAAGATGTCCTCCT CCTCTTGATGCTGCTCTTTTCTTCTTGCTTTTCCTGCTTCTTCCATCACTGCATGCTCTGCT CTCTGCTTCCCTGGTTCCACCACCTAAAACAGTTTCCTCACCTCTATCTTCTAGGTTCAAGTC CTCCTCCTGTTGCTGCCTCTTCTTTCTTCGGCTGCATGGGTCAGCATATGCCCTGCTCT CTACCTCCTCTGTCCTGACACTGCCTGCAGCCTCCTTGCCTTTTCCTCCTCCAAGACC CCCATCTTCTCCTCTTCATGGTGCCACCTCTTCTTTTTCTTCCCTTTCCTGAGGGACTGATTG GTTTGCTCTCTGCTATTCAATTCCCCAAGCCCACTTGTTCCTGCAGCGTCCTCCTTCTCATTC CCTTTAGTTGTACCCTCTCTTCATCTGAGACCTTTCCTTCTTGATGTCGCCTTTTCTTCTTCT TGCTTTTTCTGATGTTCTGCTCAGCATGTTCTGGGTGCTTCTCATCTGCATCATTCCTTTCAG CTCTGACTGCAGTTGAGGGGCCCCAGGGTCCTGGCCTTTGAGACGAGCCAGGAAGGCCTG CTCCTGGGCCTCTAGGCGAGCAAGCTTGGCCTTCATTGTGATCCCAAGACGGGCAGCCTTG AAGTCAATGTAGCCATCTTCACAAACTTCTGATACAGCAAGTTGGGCTTGGGATGATTATAAC GGGTGGTCTCCTTAGAAAGGCTCCTTATCTGTACTCCATCCTGCCCAGTTTCCACTACCAAG TTGGCCGCAGTCTTGTTGAAGAGCTCATTCCACCAGTGGTTTGTGAACTCCTTGGCAGGGTC ATGTCCTACCCCATGAGTGTCTTGCTTCAGTGTCACCCTGAGAGCCTGAGTGATACCATTCT CCTTCCGGCCGAGGCCTTTGCCTTGAGTCCATCCATGCTTTAGCAGCTGCTCCTCAGCAAAC TTCATCCCACGACTCTTGACCTCTGGGGTGACATTCATGGTGAGAAAAAAGTCTCTATCCTC AGACTCTCACCAGAGAAGAAGAGGTGATATCATCCGTCATTGCTGGGTCCGCTCCGCGGAA ACATGTGCCGGACCTGACTTGTGCGCCGCCATCTTCCCCCGCGTACCCCTGCCCGCGCGG CCCGCTCTTAGAACTGAGTGGATCCCCCGGGCTGCAGGNAATTCGATGATCAAGCTTATCG >662 >663

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CTGGGTTTCCCTTGAAGGGATTTCCCTCCGCCTCTGCAACAAGACCCTTTATAAAGCACAG

ACTGGTACGCCTCCGCGGTATCTGCATCGGGCCTCACTGGCTTCAGGAGCTGAATACCCTC CCAGGCACACACAGGTGGGACACAAATAAGGGTTTTGGAACCACTATTTTCTCATCACGACA GCAACTTAAAATGCCTGGGAAGATGGTCGTGATCCTTGGAGCCTCAAATATACTTTGGATAA TGTTTGCAGCTTCTCAAGCTTTTAAAATCGAGACCACCCCAGAATCTAGATATCTTGCTCAGA TTGGTGACTCCGTCTCATTGACTTGCAGCACCACAGGCTGTGAGTCCCCATTTTTCTCTTGG AGAACCCAGATAGATAGTCCACTGAATGGGAAGGTGACGAATGAGGGGACCACATCTACGC TGACAATGAATCCTGTTAGTTTTGGGAACGAACACTCTTACCTGTGCACAGCAACTTGTGAAT CTAGGAAATTGGAAAAAGGAATCCAGGTGGAGATCTACTCTTTTCCTAAGGATCCAGAGATT CATTTGAGTGGCCCTCTGGAGGCTGGGAAGCCGATCACAGTCAAGTGTTCAGTTGCTGATG TATACCCATTTGACAGGCTGGAGATAGACTTACTGAAAGGAGATCATCTCATGAAGAGTCAG GAATTTCTGGAGGATGCAGACAGGAAGTCCCTGGAAACCAAGAGTTTGGAAGTAACCTTTAC TCCTGTCATTGAGGATATTGGAAAAGTTCTTGTTTGCCGAGCTAAATTACACATTGATGAAAAT GGATTCTGTGCCCACAGTAAGGCAGGCTGTAAAAGAATTGCAAGTCTACATATCACCCAAGA ATACAGTTATTTCTGTGAATCCATCACAAAGCTGCAAGAAGGTGGCTCTGTGACCATGACC TGTTCCAGCGAGGGTCTACCAGCTCCAGAGATTTTCTGGAGTAAGAAATTAGATAATGGGAA TCTACAGCACCTTTCTGGAAATGCAACTCTCACCTTAATTGCTATGAGGATGGAAGATTCTGG TCAAGAGAAACCATTTACTGTTGAGATCTCCCCTGGACCCCGGATTGCTGCTCAGATTGGAG **ACTCAGTCATGTTGACATGTAGTGTCATGGGGTGTGAATGGCCATCTTTCTCCTGGAGAACC** CAGATAGACAGCCCTCTGAGCGGGAAGGTGAGGAGTGAGGGGGACCAATTCCACGCTGACC CTGAGCCCTGTGAGTTTTGAGAACGAACACTCTTATCTGTGCACAGTGACTTGTGGACATAA GAAACTGGAAAAGGGAATCCAGGTGGAGCTCTACTCATTCCCTAGAGATCCAGAAATCGAG ATGAGTGGTGGCCTCGTGAATGGGAGCTCTGTCACTGTAAGCTGCAAGGTTCCTAGCGTGT ACCCCTTGACCGGCTGGAGATTGAATTACTTAAGGGGGAGACTATTCTGGAGAATATAGAG TTTTTGGAGGATACGGATATGAAATCTCTAGAGAACAAAAGTTTGGAAATGACCTTCATCCCT ACCATTGAAGATACTGGAAAAGCTCTTGTTTGTCAGGCTAAGTTACATATTGATGACATGGAA TTCGAACCCAAACAAGGCAGAGTACGCAAACACTTTATGTCAATGTTGCCCCCAGAGATAC **AACCGTCTTGGTCAGCCCTTCCTCCATCCTGGAGGAAGGCAGTTCTGTGAATATGACATGCT** ACAGCCTCTTTCTGAGAATGCAACTCTCACCTTAATTTCTACAAAAATGGAAGATTCTGGGGT AAGTTACTCCAAAAGACATAAAACTTACAGCTTTTCCTTCTGAGAGTGTCAAAGAAGGAGACA CTGTCATCATCTTGTACATGTGGAAATGTTCCAGAAACATGGATAATCCTGAAGAAAAAAG CGGAGACAGGAGACACAGTACTAAAATCTATAGATGGCGCCTATACCATCCGAAAGGCCCA **GTTGAAGGATGCGGGAGTATATGAATGTGAATCTAAAAACAAAGTTGGCTCACAATTAAGAA** GTTTAACACTTGATGTTCAAGGAAGAGAAAACAACAAGACTATTTTTCTCCTGAGCTTCTCG TGCTCTATTTTGCATCCTCCTTAATAATACCTGCCATTGGAATGATAATTTACTTTGCAAGAAA AGCCAACATGAAGGGGTCATATAGTCTTGTAGAAGCACAGAAATCAAAAGTGTAGCTAATGC TTGATATGTTCAACTGGAGACACTATTTATCTGTGCAAATCCTTGATACTGCTCATCATTCCTT CATCTATGTCCCTTGCTGTGAGCAAGAAGTCAAAGTAAAACTTGCTGCCTGAAGAACAGTAA CTGCCATCAAGATGAGAACTGGAGGAGTTCCTTGATCTGTATATACAATAACATAATTTGT ACATATGTAAAATAAAATTATGCCATAGCAAGATTGCTTAAAATAGCAACACTCTATATTTAGA TTGTTAAAATAACTAGTGTTGCTTGGACTATTATAATTTAATGCATGTTAGGAAAATTTCACAT TAATATTTGCTGACAGCTGACCTTTGTCATCTTTCTCTATTTTATTCCCTTTCACAAAATTTTA TTCCTATATAGTTTATTGACAATAATTTCAGGTTTTGTAAAGATGCCGGGTTTTATATTTTTATA GACAAATAATAAGCAAAGGGAGCACTGGGTTGACTTTCAGGTACTAAATACCTCAACCTATG GTATAATGGTTGACTGGGTTTCTCTGTATAGTACTGGCATGGTACGGAGATGTTTCACGAAG TTTGTTCATCAGACTCCTGTGCAACTTTCCCAATGTGGCCTAAAAATGCAACTTCTTTTTATTT AAAAAAAAAAAACCACTACAGGAGAAAACACCCCAAAAATAAGACAAAACAACAGAGGAAG CCGAAAGTGACACGCAACACACACACCCATATGACAAAGAACGACTCCCCACTCAGAGGA CAACCATAAATAACACCACAGCCCAGCCACATCAGATAAAGCAGCCAGATAACGAACAACCC ATCAACATGACAATGCGACCAAACGACCACCATGCGGGAGAAACAGCAGCACCACTTCACG AGAATTGCAACCAGCAAACAACAAGCCACCGACACGACGAACACACACACAAATGACAAGA AAGCCCAGACCTCGAAACNN

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ATAGGGAGTCGACCCACGCGTCCGGCGGGGAGGTCGCTCGACTCGGGGGGGCGGC CGCCGGGCAGGTACGCGGGAGACTTTCCCTGCCGGCACATGGACCTGGCCCAACCCTC ACAGCCAGTAGACGAGCTGGAGCTCTCGGTGCTCGAGCGGCAGCCAGAAGAGAACACGCC TCTCAATGGTGCCGACAAGGTCTTCCCTTCTTTGGACGAGGAGGTCCCCCCGGCCGAGGCT AACAAGGAAAGCCCCTGGAGCTCCTGTAATAAGAATGTGGTTGGAAGATGCAAACTGTGGAT GATCATCACCTCCATTTTCCTAGGTGTCATTACAGTGATCATCATAGGCTTATGTCTTGCTGC ATCATGCTGAAGATTCCAGAGGAGTGTTGCTGAAGAGGGAATTGCCTCACCTGCTCACCGA AAGGCTCACAGATGTGTACAGTACATCGCCCTCTCTGAGTCGTTATTTTACTTCAGTTGAAAT AGTGGACTTCAGTGGTGAAAATGCCACAGTAACGTATGACCTGCAATTTGGGGTTCCATCAG ATGATGAAAATTTTATGAAGTATATGATGAGTGAGGAGTTGGTGCTGGGCATTTTTGCTACAG GATTTCCGTGATCAGAATATACCTGGTTGTGAGAGTCTGGGGCTTGATCCAACATCCCTCTT GCTCTATGAATGAAGTGATGGAGGCTGGTCTCTGTCTGAAAGCAGTGCTCTACCAAAGTCCT GGAGATTGAAGGGGATCCACTCGGGTTTGCAGAGAAGATTCTGTGGATTAATACAGAAGCA CCAGCAACACCAGAGGGGTGGAGACTCCTTTCTCTCCCGATTCTACAGTCTGGCTCTAAGC CCAGTAAAACAGCTCCCGAGCACTGCTTCAGCTGGGTCCAGTCTTGACAAAGGCAGGAAGC CAGCTAGGGTGGGGCGATAGGGTCAGCGGGTATGTCCCACTGTTGGAGGTCACTGGTAT **TCTGNNN**

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TCCGGAAATCTACAAGAATCATAGAATTCAATAAAAAAGGTAGAAAGTAATTTTTTTA CTTAAAAATATAAATTAAAATAAATTTTTAAAATCATAAGCACATAAATAGAACTTACCAGGGA GAAAGAAAACCTGAAGGCACAATTTCTTTTCTGTTCAAAATGTGAACCCAGGATGTCTCTAG TTAATTAGCACCAATCAGTTTAAACACTGACTGTTAGAATAGCTGCATGGGTTTTTTTCTTTAA ACTAATTAAGCGTTGGCTACTTAGTATAAGTAAGTATAAGCCGAATTAAGGTTCTGCTACATC TGTGTTTAGAATATTTTTTAAAACTAAATAAGTGTTGGCTAGTTTTGCGGTGTAAGCAGAATT AAGGTTCTGCTACCTCTGTGTTTAGAATATTCCCAATGGATTTTTCATTTTTCAGGTGCTATTT TTTGACCCTGTATAGACTTTAATTTAAAATGAATTTGGTAACGTTTCTCCTCTGTCTCTACATA TATTCATGCTTTCACCTGCTCTTTTAACACCTGCTTTTAGTATCTGAGGCACTTTTTCTGAACT CTACTTGTGCACTGGATCCCTCCTCTTTCTCTGCCAGGCTGTGTTTACTTTATCCTTACATC ACCACTTAGTGATTCCTTTCTTTGTATAAACATGGTAAATGTCTTCATTAGCCTAAAAGGAAAG ACCAAATAAAACCTTTCCTACCACTTGGATGCATTTGCATCCTGACTTCTGAAATGCCTCCAG CCTCCATTTTCTCCCTTCCCAGTTATTCCTTAGCCCAGCCATCTCTGTCTTTAGCTCCTACAA TTTTCTTAGGATATTCTGGGAAAGATGAGCGGAGACTGCCCGCCTTGTCAAATCTAGTGTCT TTTTTTCAGTCCTCACACTGCTTGACCTATGTATAACCTCCTATACTTCCCTCTTTGCATACTC CTCCCTCAGTTGGTGCTATTTCCCCCTACCCGCCCTCCGATGATCTTATCAGAGCCCACAG TTCTTTTTCTCCATCACACTCATACTTAATCATCAAGTCCTTTTGAGCTTGTCTCCTCTTGAAT ATGTCCCTTCTTAATTCCTGCTGCCTTCTTAGTAAAGGCCTTCATTCTTTTTTCCCTAGTAATA TCCTTGAAAAAAAACAATTCTCTCAGGCCTCCATACCTTTAGCATGTTACCCACTCTGCCTCT GCTCTTCTGGAACTAGAACACTCATCCTTGAAGGCTGGGCTTCTGTATGAAGGTTGGTCCTG CCTCCTTACTTGAGGTGAAGCTTTGTACATGCCTGTATTACGGACATCCTCTTATTTAAGTGT TTGTCTCTTTCGTCATTGGGACTCCAGCACCCAGCATAGTCCCTAGTATACTAGTTGGTGCC GAATAAATAGTAGCTATTATTAGAAAAGGAAGGGTGAAATTGACATGGGAGTTAGTAAAATGT ATATGGAAATGATTTTTAAAGGGAAAGGTAATGATTTTCTGGCAGGAAAAGCAGCAATGACAA GATTACTTAAGTCTTGTGAAATAACACTTCTCTTCCTTGACCTGCTGCTTCCCTTTTTTACCAC ACACACACGCACACATACCACAGCCCTTTGAGACTGAAAGCAGCTCTATTGAGAATAGTAGT GTCAACTGTATTATGTAGAAATTCTAAAGTTTTTTGGGATTATTTCATAGCCCTGACCTTGCTAC TTCTCTCCACTTTATGTGGCAGGTTTAATCTCAGGTCTCCCTCATACACTTCTCAGCCTCAGC **ACCTAACCCTCACACACACCCCAGTATTGATGCAGTCAATCTTGTATAACATTTTTTGAATGT** CCAATGTGCAAAGCACGATGTTGGAAATTATACAGAGGTGAATAAGACAAAAACTCTTGCTC TCAAAGATGTCAGTCTTTTTCTTTGCAAGGATAACACATGTAGAGTAAAATGCATAAAGGGGA

GCGTCCGGGCTGATTTAATTGACAATTATCAAAATTACTGAATACAGAGAAAGGCAG
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GAAAGTCATCTATTTGGACGATGATGTAATTGTACAAGGTACTCTCGCTAACTGCCAAGAACA
CTTGGAAAAGAAGAGCAGCTGATAAGTAGGAATAACTGTCTCTCTTCATTTTTCAAATAACTTATT
GTGCAGCAAGTTTTGACCTGCTATTAAGGTGTGAGNCAGTATTGTTGTAATTGTGGAGGNNNN
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TAGGCTGGGTGCAGTGGCTCACGCCTGTAATCCCAGCACTTGGGAGGCCGAGGCA GGCAGATCACTTGAGGTCAGGAGTTCGGGACTACCCTGACCGACATGGAGAAACCCTGTCT CTACTAAAAAAAATACAAAATTAGCCGGGTGTGGTGGTGCCTGACTGTAATCCCAGCTACTT GGGAGGCTGAGGCAGGAGATTGCTTGAACCCAGGGGGCGGAGGTTGCGGTGAGCCGAG **AAAANAAGATTCTATTAGAGATATGGCAGATGTACTCTCTGAGCTATTTAATTGATAAAGAA AAAGTAGGAGTTCCTGCTTTTTACTAAGATGATAATCATAATTATGATCATACTGATGAAAATA** ATAAAATTGCTCTGACTGTGGTGAAGATTTTTTCCCATTTCTCATTTAGCTATTCAGAAATAT ATTTCACCCTCAGTTCATAACTGATATACTGCTAGAAGTTGAGGGTCAAATCGTGGCAACACA CCGTGCACTTCATGGCATTGTTGAGCATGAAACAACTCTGATAGAGCCAGAAATTAAGATTC GCTTATGGCTTACCCAAGGTAAATGCCAAGTCAATGGCAGAATGAAAATTCAAGCTTGGGGC CAGGTGTGGTGGCTCACATCTGTAATCCCAGCACTTTGGGAGGCCAAGGCGGCAGATCAC TTAAGCCCAGGAGTTAGAGACCAGCTTGGTCAACATGGCAAAACCCCAGTCTCTACAAAAAAC TGTTGGAATTTTAAAGAAAAGAAAGGCAAAGTAGCACTCAGATGGCCTTTTTTTGTAAAGTGA AGTCAACCTAATACTCTGGTGCTTACTTTGCAAATCTTTTCCATAAGTCAAGTATTAGTGTTAA CAATACACTTAAGAAGTAAGGATAAACCCATCAAGGTCCACAGCTAAATAACCAGCAGATTC CCAGAAACTTTATGTATTTGGGAAAAGTAAAATATACAACAGACATATCCCTGCCCTGATTAA GAGGGTAGATAAAACAAAACATAAAACAATTTTACTTGAGATAGTAATAAGTTATTTGAAAAA AATAGTAAGGCTTGGGAATAGCTGAATTGTAAAACAAATCTGTCAGTCCAAAAAACGAAGATAA TTCCATTCAACCGCTGACTACTGAATGGGAAAGCAAACGTTGTCACGTCTTCTATTTCTCTCA GCAGTAACTATTACTTAAAGTCTCACTTTCCATACACAAGAGACAAAGAATCTAGTCAAAAGC GGGAACTGTTAAAGCCTTACACCAAGGAAAACATAAACTTGTACCTCGGCCGCCACCGCGG >669

Table 4

AGAACCCAAGGAATAAATTTCTCCATATCGTTTCCTAGTTACCCTAATCTCTGCACAAATTTGT GTGTTACAGAAGCAGATCCAGAGCTTGAATAAAATGTGTTCAAACCTTCTGGAGAAAATCAG CANAGAGGAGCGANNN >670

CGGGAGGAGGACGCGGTCCGGGTCTAGGAAGTAGGTCCCGGGCTCCGCGCTCAACAAAG ACGGGCCCCCCATTAGACGGAGCTGCGGGCGAGGCTCCATGTTGGGAAGCGGCGC CGTTCGTGCTTGTTAGCGGGAATCCGGGAGCCGCGGGGTGAGCTGGCGGGGCCGGGCC CTAAGTGAAGATGGAGGCCCGCTGCGGCCTGCCGCGGACATCCTGAGGCGGAACCCGCA GCAGGACTACGAACTCGTCCAGAGGGTCGGCAGCGGCACCTACGGGGACGTCTATAAGGC CAGAAATGTACACACAGGAGAGCTGGCTGCAGTAAAAATCATTAAATTGGAGCCTGGAGATG ATTTTTCTTTGATTCAACAAGAAATATTTATGGTTAAAGAATGTAAACATTGTAACATCGTTGC CTACTTTGGGAGTTATCTTAGTCGGGAAAAACTATGGATTTGTATGGAATACTGTGGTGGCG GATCACTTCAAGATATTTACCATGTTACTGGACCATTATCAGAATTGCAAATAGCCTATGTAT GCAGAGAAACCTTACAGGGTCTTGCCTATTTGCATACTAAAGGCAAAATGCATAGAGATATC AAAGGTGCTAATATTTTATTGACAGACCATGGCGATGTAAAATTAGCTGACTTTGGTGTGGCT GCAAAAATAACAGCTACCATTGCAAAACGAAAATCTTTCATTGGCACCCCTTACTGGATGGC GTAGGAATACAGCAATTGAACTTGGAGAACTTCAGCCACCTATGTTTGATCTCCACCCAAT GAGGGCTCTCTTAATGTCAAAAAGTAATTTTCAGCCTCCAAAACTAAAGGACAAAACAAA AACTGCTGAAAGACTTCTGACTCACACTTTTGTTGCACAGCCAGGTCTCTCTAGAGCCCTAG CAGTTGAACTGTTAGACAAAGTGAACAATCCAGATAACCACGCACATTACACTGAAGCAGAT GACGATGACTTTGAGCCCCATGCAATCATTCGTCATACCATTAGATCTACAAACAGGAATGC CAGAGCTGAACGGACAGCTTCAGAAATAAATTTTGACAAATTACAATTTGAACCTCCTCTGAG AAAAGAAACAGAAGCACGAGATGAAATGGGATTGTCATCAGACCCAAATTTCATGTTACAGT GGAATCCTTTTGTTGATGGTGCAAATACTGGCAAATCAACCTCAAAACGTGCAATACCACCT CCCCTACCTCCTAAGCCAAGGATAAGCAGTTACCCTGAAGACAACTTTCCGGATGAAGAAAA AGCATCAACCATAAAACATTGTCCTGATTCAGAAAGCAGAGCTCCCCAAATTCTCAGAAGAC AGAGTAGCCCAAGTTGTGGGCCTGTGGCAGAGACTTCTTCTATTGGAAATGGTGATGGTATT TCAAAACTGATGAGTGAAAATACAGAAGGATCAGCACAAGCACCACAGTTACCACGAAAAAA GGACAAACGAGACTTCCCTAAACCAGCCATCAATGGCCTTCCACCCCACACCCCAAAAGTTCTGA GGATACATCCTGATACAAAAGATCAGTACATTATTTTTGGAACTGAAGATGGTATTTACACAC TGAATCTCAATGAGCTACATGAGGCAACGATGGAACAGTTATTTCCACGGAAGTGTACTTGG CTGTATGTTATCAATAATACTTTAATGTCATTATCAGAAGGAAAAACCTTTCAGCTCTACTCTC ACAATCITATAGCTITGTTTGAACATGCCAAAAAACCAGGATTAGCTGCCCATATTCAAACTC ACAGGTTTCCAGACCGAATACTACCAAGAAAATTCGCTTTAACAACAAAGATTCCTGATACAA AAGGCTGCCACAAATGTTGCATAGTCAGAAACCCTTACACGGGACATAAATACCTCTGTGGA GCTTTACAGTCTGGAATTGTTTTACTTCAGTGGTATGAGCCAATGCAGAAATTCATGTTGATA AAGCACTTTGATTTTCCTTTGCCAAGTCCTTTGAATGTTTTTGAAATGCTGGTGATACCTGAA CAGGAATACCCTATGGTCTGTGTAGCTATTAGCAAAGGCACTGAATCGAATCAGGTAGTTCA GCAGTTAGATTCCATTCATGTAACACAGTTGGAGAGAGATACCGTTTTAGTGTGTTTAGACAA ATTTGTGAAAATTGTAAATCTACAAGGAAAATTAAAATCAAGTAAGAAACTGGCCTCTGAGTT AAGTTTTGATTTTCGCATTGAATCTGTAGTATGCCTTCAAGACAGTGTGTTGGCTTTCTGGAA ACATGGGATGCAGGTAAAAGCTTCAAGTCAGATGAGGTTACCCAGGAGATTTCAGATGAAA CAAGAGTTTTCCGCTTATTAGGATCAGACAGGGTTGTCGTTTTGGAAAGTAGGCCAACAGAA AATCCTACTGCACACAGCAATCTCTACATCTTGGCTGGACATGAAAATAGTTACTAAGCAACA GAAACTGATCTCAAATGACAGGAAAATGAATATACTCCATTGAAAGGAAAAATAAGGAAATTC AATACAAACTGCACTATGATTTGCTTTAACTATTATGGGTTATATTGCAAATGATCTGTACTTT AGGGTAGAATTCAATATTTTCTGCAGCTGGAAACAGCTAGTCTATCTCTTGCCACTGTGTGGT GGTTATATCAAGTTTGCTTAATAAAAGCTATGAGACAAATAGTCCTCTAGTTCCAGGAAACAC AGTCTTTTTTAAAAAAAACAATGTTTGTAACAAGGGTGCCATGGTATTTTTAGATAACTCGTG ATTATCTTAAGAGAGGTAAATTTAGTGATCATTTTATATCATGTCTTATTCCTTCTTAATGAACA TAATTTGTTAAATTCTCAAGCAAGGTTTTCACTTTTATATTGGCCATTCTGTATGTTTTTGTAAA

Table 4

ACAGAATATTTAATCCTTATTTATTAATCTCTTGCTGGAGTGGTGTAATGTATCTAACTTTTAG CAAAGGAGGGTTGCAGAGCAGCTTAAATTTTTTTTATAATGTATAAGAATTTTGTTTATCTTTT AAGTATTTATAATACAGTTTCATACAGAATTACCTTAAAAGGGAGTCTTATGTTTTCAACTAC AGATAGTTGTAAGGGATCATACAGAAGATATTGATGATAGTTGAAATATTCTTAGAAGGGGTG TGTATGTCTAGCTGTGTCTACCATGTGTATGTATTCTTGACAAGCAGTATAAAATACCTGTGA TTTTTCTTTACATTAGGGATAATGCATAAGGAATTAATCTTCATATATTATCATCCCTAATGT AGCAGGGGAAGTATTTAATTGCCCATGATATGTATTTTACTTATACTATGCCAGAGAGAAA CTATAAAGTAATTACACATGTAATCTTGGGTTTTTCACATATGTAGGTATTCATTTTGAGTAGG TTGAAGAAGAAAAAAATATTTAAATGAATTGAATTCCTGATGGGATAGTATCAATAAGTATTT TTGTTAATATTCAAAATTAAAGTGTTACATTGGTACCTGTTGTCTTAATGCATTTATTGAGAAC AGCATTGAGATGATGAACAAGGGGTTAGCAATAGCAAACTCTATAATTATTTTGACTAATTAC TTAAGAGGAAAACAGTATAAGTATCTCATTCAGTATTTAGCAATTCTGTAAAATAAGTATTATC TCTATTTTCAGATGAGGAAGTAAGGGTTTAGCAAGGTTAAGAGATCTATCCAATTTACACAG CAAGTTAGTAGTTGAGCCTGACCATGAGTCTT

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CCACCTAATAAATAAATCCTTGCATGACAAACCTGCAAAATATTTTATCAGCTGTTATT GGAAAGTGATTTTAAGCAATTGCTTCCTCAGTGTCAGGGCACATGTGAATTTCCACACCAAA CAGAGCATGAGGAACCAGTTGACATGCTGGGTTGTGACTGGCAGCTTTAGCAGCCTCGGTA CTGAAGCCACACCAGTGTCCGGATGGAAGTCTGCATCTGAGGTTGCTCAGTGTCCCGGTCA TTCATTTACACATTTTAACTTGCATTAAAGAGCTGTTCTTTTCTGTGGCCTAGACTCTTTTCAC TGCATGTCTAAAATTACATGGAGTTAGTGTCTATTCTTTTTCCCCTTTTGCAGCAACTTACACA GCATTTTTAACACCTTTTTTTTCTAGTTTTTTTGTTCGGTTTTGTTTCCATCAGGAATTTGAGT TCTCTCTAACCCAGCTTACTGTGGGACATAGGAAAACTCAGTAGAAATACCTTTGGTGATCTT GTTGAGTTTAAGTCTGATCTTGATCTTAAACTCAGTAAGCCACTATCTGCAATTTTGTACATTA GAGGGGAAAGTTATGTTCTGCAAATAGTGTGTGTCTTATTTTACTGTTGAACAGCAATTGCTA TTTATTTTTTATTGCCTAGAACTTCAACATGTTGTATAGGAATCCTGTAGTGCCACTAGTTAA ATGCCGAATTCTCATCTGGATGTTACCATCAAACATCAGTACACTTGTCATTTCACATGTGTT TAATGTGACAGTTTTTCAGTACTGTATGTGTTAATTTCTACTTTTTTTAATATTTAAAATTGCTT **GTGGCGGACNN**

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Table 4

NTTTTTTTTTTCCTTTTTTTTTTTTTTTTTTTTTTTTAAACTATTAATTCACT CCTTTATTCTGGGATGTATATTACAGATAACACAACTCACAAATATACCATCAGACATTGAAAA ATGAATTACCAAAACCAAGATTCTCTTCTAAAATGAAAATTTAATGCAGGTACAGGATAACTTT AGGGCTATATCTAATCTGAAGCTTATCAGGTAGCAAAACCATTTTCGTTTTCTACAGCATAAA TAACAGCTCTAAGGCAACCACTACCTCAGCATGAAGCTCATTTCTCCACGTTAGAGTAGTGT TTACCTGCTACAGTGACCAGTGTTTAGAGACCATTTCCCTTTCAGTAGCAAAAAGAGACTTTA CCTAAGAAACACACTACATACTACAGAATCCTTGGAACAAGAAACAGAAAGGGAGCTGTAAC TAAGGCACTGAAAGCACATTATTTGTATAAAGAAATGTAAACAATTTAACACCAACAGGCTCC CTCCGTTGGAGTCTTTATTGTAAATGCACACAGGGGCATCATAGTCAGGGCTAGAGTTTGAA GTCTGGGTGAAACAAATGTTTCTGCAGAGTTCAGAGTCTTGGCTGCCAATATATTTCTAACAT GGTGCTGTTGAATTAACTATTTCAAAGTGACTCAAGTGGAAGCTGGTATTTCCCTTGAATCTG **AGTTTTAATAGCATTAACAAACAAGGAAGATTTTATAGGAGTCCTAAAATTATGGGCTCTTTC** TAACATTTATTTGAGTCTTTTATCAAGTTCTTCTAATGAATTTTAGGATTATTTTGGCTTATTTC ATCAAGGAAGTTTGGTGTAAGAACTTGTTACCTAATGAGTGCCCCTCCTTGTAAGTTCATATT TCAAGTTACATGGTTCATGCCATAAATAAACCACACTTGCTTTAACATCGTTCAGAATGGTAC ATTTAACAATTGGACATACAGCACTGTAAACAATTCAAAGTCCATTGAGCTTACCATGAAAGA ACTGAAACGTATGTAGGAACTGTGTCCTGCTGCAGACAAGCAGCTGCTCTGGCTCTGGTGC GGTGCGGTGCAGTGAGGTGAGGTGGGCTGGTGTGAAGGGAGAATTCCTGAGGCCAGTC ACAATTATTGAAGCTAAATTAATTTCTTCCTGACACTTTAGCATTAATTCTAAGTAGTTCTAAG TTCTAAACCATTAACTGTATAGTTAANNNNNNN

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ACACATTGGTTTTCCCCCTCAGACCATTCCCGGAGTAATAAATCCAGTTGGAGCAGCAGTGA TGAGAAGAGGGGATCGACACGTTCCGATCACAACACCAGTACCTGCCCGGGCGGCCGCCA **CCCN**

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Table 4

ACCACATTTTTACTGCATCTGCTCCACGCTGGATTCCAACATGCTGGCCCGGAGCGTGGCT TACTCACTGTCCCAAGTCCAGAGGCAGTTACAAAAAACACTCTTGATGCAAACCGTGAGTGG CTACAACACGGATGGGGGTGGGCGCGATTCCCACAACAGGGAGTGGAATCCGGGAAGA TGATATATAGGGGCAAGACGCCCCCTTACTTGCTAAGAGTATATGGAGCTCAAAACCCACAA TTGCTTTGTTTTCTCAGTTCCTGGAGTATGTTGAAACTACTTGCTCTTAACATTAGTTCG CACCTTATAGTTATTCCTACTGATATAGGATGAAGATTATAAATATCTGCATAAAAAGAGAAAC CATGTGACTCTATATGAAGACAACCATCACATTCCACAGCACATCATTGGTTCATTTTCGAAT TGTCAAGCAGTATTTGAAATGAGAGAGAGAGAGAATATAACTGAACACAAGCACCACGACAA AACAATCATAACAACAGAACCAAACCCAAACTTCTCTATTATTAATCATGTTAAAAATTTTAGCT TTGTTTCTAACACTTTTCTTTACTTGTTATTTTAAGCTCCAGTAGCAGGATCAGATTTCTGCTG <u>CCTCTAGGCAAATGAGTTATGATCTGATCTCGAGTTCCAAGGGAAAATGCTCAAAGTTTTATT</u> TTCCCCAGTTGAATAAACAGTACCATGTATATTATCTCTCGTGTTAGAATAGTGTTGTCTTCAC ATAAGACTCAAATAATGGTATTAGTCATTCATTTCCCTGAACACAGACACCCTCATGCGTGCT GACAGGTTTATAAGGATGCGGTGGCAGCCGCGGGTTCTGGGAGCTGCTAGACGGCCGAGT TTGATTTCTTGCAGTCCTGAGCGATGGAGCCCGGGGGTGCCTGGTTATTGTCCGCTTTCTCT CTCAGATGCTTGGCTTGTTTTTCAAGAGAACCTTTTTCGATATTCATTGCTCCATCGATTGGA TCCAGTCCTTGTTCAGAAAATTGTTTCAAGGCACTTAAGGCTGCCTGAAAGCCTTGAATCCTT GCTTCTTAGAAAAGCTAAGTCCTGGGTTCCCTCTGATTTTAGGTTCCAGGAACTTTCTTGGAA CACCCGATCGCAGANNNNN >691

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Table 4

TGGTGTGGATCTATTGGCTGATCTATGCCTTTCAACTAGAAAATTCTAATGATTGGCAAGTCA CGTTGTTTTCAGGTCCAGAGTAGTTTCTTTCTGTCTGCTTTAAATGGAAACAGACTCATACCA CACTTACAATTAAGGTCAAGCCCAGAAAGTGATAAGTGCAGGGAGAAAAGTGCAAGTCCAT TATGTAATAGTGACAGCAAAGGGACCAGGGGAGAGGCATTGCCTTCTCTGCCCACAGTCTTT CCGTGTGATTGTCTTTGAATCTGAATCAGCCAGTCTCAGATGCCCCAAAGTTTCGGTTCCTAT GAGCCCGGGGCATGATCTGATCCCCAAGACATGTGGAGGGGCAGCCTGTGCCTTTG TGTCAGAAAAAGGAAACCACAGTGAGCCTGAGAGAGACGCGATTTTCGGGCTGAGAAGGC AGTAGTTTTCAAAACACATAGTTAAAAAAGAAACAAATGAAAAAAATTTTAGAACAGTCCAGC AAATTGCTAGTCAGGGTGAATTGTGAAATTGGGTGAAGAGCTTAGGATTCTAATCTCATGTTT TTTCCTTTTCACATTTTTAAAAGAACAATGACAAACACCCACTTATTTTCAAGGTTTTAAAACA TCCCAGAGGAGCAGCTCTCCCCAGGCATTTGCCAAGGGAGGCGGATTTCCCTGGTAGTGTA GCTGTGTGGCTTTCCTTCCTGAAGAGTCCGTGGTTGCCCTAGAACCTAACACCCCCTAGCAA AACTCACAGAGCTTTCCGTTTTTTTCTTTCCTGTAAAGAAACATTTCCTTTGAACTTGATTGCC TATGGATCAAAGAAATTCAGAACAGCCTGCCTGTCCCCCCGCACTTTTTACATATATTTGTTT CATTTCTGCAGATGGAAAGTTGACATGGGTGGGGTGTCCCCATCCAGCGAGAGAGTTTCAA AAGCAAAACATCTCTGCAGTTTTTCCCAAGTACCCTGAGATACTTCCCAAAGCCCTTATGTTT AATCAGCGATGTATATAAGCCAGTTCACTTAGACAACTTTACCCTTCTTGTCCAATGTACAGG AAGTAGTTCTAAAAAAAATGCATATTAATTTCTTCCCCCAAAGCCGGATTCTTAATTCTCTGCA ACACTTTGAGGACATTTATGATTGTCCCTCTGGGCCAATGCTTATACCCAGTGAGGATGCTG CAGTGAGGCTGTAAAGTGGCCCCCTGCGGCCCTAGCCTGACCCGGAGGAAAGGATGGTAG AGAGTTATCCTGATAAATTAACCTCTCACAGTTAGTGATCCTGTCCTTTTAACACCTTTTTTGT GGGGTTCTCTCTGACCTTTCATCGTAAAGTGCTGGGGACCTTAAGTGATTTGCCTGTAATTTT GGATGATTAAAAAATGTGTATATATATTAGCTAATTAGAAATATTCTACTTCTCTGTTGTCAAA CTGAAATTCAGAGCAAGTTCCTGAGTGCGTGGATCTGGGTCTTAGTTCTGGTTGATTCACTC AAGAGTTCAGTGCTCATACGTATCTGCTCATTTTGACAAAGTGCCTCATGCAACCGGGCCCT CTCTCTGCGGCAGAGTCCTTAGTGGAGGGGTTTACCTGGAACATTAGTAGTTACCACAGAAT ACGGAAGAGCAGGTGACTGTGCTGCAGCTCTCTAAATGGGAATTCTCAGGTAGGAAGCA ACAGCTTCAGAAAGAGCTCAAAATAAATTGGAAATGTGAATCGCAGCTGTGGGTTTTACCAC CGTCTGTCTCAGAGTCCCAGGACCTTGAGTGTCATTAGTTACTTTATTGAAGGTTTTAGACCC ATAGCAGCTTTGTCTCTGTCACATCAGCAATTTCAGAACCAAAAGGGAGGCTCTCTGTAGGC ACAGAGCTGCACTATCACGAGCCTTTGTTTTTCTCCACAAAGTATCTAACAAAACCAATGTGC AGACTGATTGGCCTGGTCATTGGTCTCCGAGAGAGGGGGTTTGCCTGTGATTTCCTAATTAT CGCTAGGGCCAAGGTGGGATTTGTAAAGCTTTACAATAATCATTCTGGATAGAGTCCTGGGA GGTCCTTGGCAGAACTCAGTTAAATCTTTGAAGAATATTTGTAGTTATCTTAGAAGATAGCAT GGGAGGTGAGGATTCCAAAAACATTTTATTTTTAAAATATCCTGTGTAACACTTGGCTCTTGG TACCTGTGGGTTAGCATCAAGTTCTCCCCAGGGTAGAATTCAATCAGAGCTCCAGTTTGCAT TTGGATGTGTAAATTACAGTAATCCCATTTCCCAAACCTAAAATCTGTTTTTCTCATCAGACTC TGAGTAACTGGTTGCTGTCATAACTTCATAGATGCAGGAGGCTCAGGTGATCTGTTTGAG GAGAGCACCCTAGGCAGCCTGCAGGGAATAACATACTGGCCGTTCTGACCTGTTGCCAGCA GATACACAGGACATGGATGAAATTCCCGTTTCCTCTAGTTTCTTCCTGTAGTACTCCTCTTTT AGATCCTAAGTCTCTTACAAAAGCTTTGAATACTGTGAAAATGTTTTACATTCCATTTCATTTG TGTTGTTTTTTAACTGCATTTTACCAGATGTTTTGATGTTATCGCTTATGTTAATAGTAATTCC CGTACGTGTTCATTTTATTTTCATGCTTTTTCAGCCATGTATCAATATTCACTTGACTAAAATC >692

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Table 4

GGATAGTTTCCAAGCTATTTTGGATCATACCTACAAAATGCATGTCAAATCAGAAGCCAGTCT GAGTTAATGTTTGAACACTACAACATCCCTGCCTTCTTCCTTTGCAAAACTGCAGTTTTGACA GCATTTGCTAATGGTCGTTCTACTGGGCTGATTTTGGACAGTGGAGCCACTCATACCACTGC AATTCCAGTCCACGATGGCTATGTCCTTCAACAAGGCATTGTGAAAATCCCCTCTTGCTGGAG **ACTITATTACTATGCAGTGCAGAGAACTCTTCCAAGAAATGAATATTGAATTGGTTCCTCCAT** ATATGATTGCATCAAAAGAAGCTGTTCGTGAAGGATCTCCAGCAAACTGGAAAAGAAAAGAA AAGTTGCCTCAGGTTACGAGGTCTTGGCACAATTATATGTGTAATTGTGTTATCCAGGATTTT CAAGCTTCGGTACTTCAAGTGTCAGATTCAACTTATGATGAACAAGTGGCTGCACAGATGCC AACTGTTCATTATGAATTCCCCAATGGCTACAATTGTGATTTTGGTGCAGAGCGGCTAAAGAT TCCAGAAGGATTATTTGACCCTTCCAATGTGAAGGGGTTATCAGGAAACACAATGTTAGGAG TCAGTCATGTTGTCACCACAAGTGTTGGGATGTGGATTTCCAAGCATTTCAACAGATGTGGA AGAGTTCCCAAGCTTCTACCTTCCTTTTGTCACCTTACGTTTCATAGCTTTAGTATACTCAGG AAAAGAATGACCATCTTTTGTAGAATGTTTATACATTTTTGCATATTTCAATTTCCACTTAAATT TTTTAAAGCTTTAACTGGCTCTATAAATTAAGTTTGTGCTTTCCTTGAAATGCACTTATTCTTAT TACAAGCATTTTATAATTTTGTATAAATGTCTATTTTCTCTAAATATTTTGCTTTCAGTAAAATG CTTTCCAACTCTGTTTAGTGTATTAATTACCAGTGGATTGGTAGAACTGCTTTTTATTGACTAG GAAATATATTTTGGACTGTTGTGCACTGTGATTACTACTTTAAGGACTAAATGTATTTCTCATT ATTTTGAATCAAAGTCCTCCGTTTATTAACAGCAATACCCACATCCTCTTCATAGCCTATTAAC AACAGAGGTAAAACTATTATTCAAATTCAAAAACTACGGTATTGCCTTTGCTGTGGCAGTTAC CATCACCTTCACACTCTAAGGTAGCAGGTGACATTTAAAGCCTGCTTAAATGTCAGAATTTAT AAAGTGGGAATCTCATCTGAACTTTATACCTGATTTTTAGAAGCAAATTAGCTTCTACCAAATT AGCTAATTAGCATGCCATATTCACACTTAGAACAACTGATTAGTAAAAGTCACTTGACTAAAAA CAGAATTTCTTTATAAACCACTTAACATATTTACTCCTGTACACAGACTATTCAAGAAAAACAA AATGGTAAATTTAATAGTTCAGACATCTTAGACAAGACTTGACTTTTGGGCTTCAGCAAGATG GGGCTCGTTTCTCACGTTCCAGTCTGAGAAAATGGTCCACATAAGGCAAGGCAAAGAATCGT TTCCTATTGTATCTTTTATTTAGGTGCCAAGGTATAACCCACTGCTTGAACTTGTGCCAGATG AGCCTTAGGGCATCTTCTCTTTCCTGGACAACTTTATCTAATGCATCCATGGAATCTACTACC TTATCTAACCGCTCTGGACTTGGCATTGGCAATCTCTGCCGCTTGGCCTCCTGCTCTAGGGT TAGAAGCATGTTTCTTTCAGTAAGACATACCAAAGTTTGTGTAAATCTTCATTACTTTTG TTCCTTAGTTGCTGACAGGTCCATGCTGCTCCAGATTTTACTTTTTCTTGCCCCCAGTTTTTT **GGGTCATCAAAAAATTCTTCTAGTCCTTTCCTTGACAATGTGGTATGAAGTAATCTATATTGG** TGAAAGGATGTCACATTTGGTGTACTCTTAGGCAACAAACTAAGAGAAGACCTGCAACCCGA GTGAGCAGCGTCCTTGGGATTTACTAGGGAACAGCTGCCTTCAGGAACGCTGAGGCTCTT CTACAAATACCCACTAGACTGGTCGCAGCCATGTTTCTAATGGAGACCGTCAGTTTCACCTA **GGCCAGCAAN**

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>705 >706

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>708

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GCCATTGCTGTGTGGGGCTTGGAGCCAGGAGAAGATGCAGAGGAATTTTACAATGAATTACTT
CCATCAGCTGCAGAAAATTTTCTAGTTTTGGGGAGCAATTACAAACATGTTTTA
>710

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Table 4

GGCATGCGCCACCACGCCCGGCCAATTTTGCATTTTCAGTAGAGGCGGGGTTTCTCCATGT TGGCCAGGCTGGTCTCCAACTCCCGACCTGAGGTGATCTGCCCACCTCAGCCTCCCAAAGT GCTGGGATTACAGGCATGAGCCACCATGCCTGGCCAAAAATAAAGAACTTTTAAGACAAACC TGAAAATCCCAGTAAGAGCCATCTTTTGACTGGCTTTATGTTACTCTTCAGATACCGTCTAAA AGGCTCAAGACCAGCCAGATTTTAGGTAGGGTTTTTTTGCTGCAAAGTAGAAGCCTACTGTCT ATAAAGATCAATGGTCATTAAAATTCATTCCAAAACAAAACTGCATATATACTTTGGAGCTCCA CTTCTTTGTTTTCGTAAATAAAAGAAACTAATTGACGAGTATGTACAATGTGCCAGGCACCTT GTCTTGAGCCAAAGAATTACCTGGGGTCCGTTGAGTTTCAAATCTGAAAATTTCTGTCTTTCA AGGTCAGCATCGCCCACAAACCGGCCGTTCTGAAACACAGCCCACAAGAAGACAATTCATTT TGTGGCCTTCTTTTGCTCTATCAAATACAAACGATCTTTTTTTCAAACAGGAAAAGGGCTTTC AAGAAGATATGTGTGGCCTGGAGTCCTTGTGTCAGTACTCATAAAAGAACCATTCACTCTTTA **GTCTTAGCACTTTCCTCAAAATTGAAAATCAGGCCTGGAACTCTGGCAGACAGGGTCTCTGG** AACATAAGAACGTAAACTCCACGAGGGCAGAGGGTTTTTTGGGATAAGTTTAGTTTAGTCTA GTGCCTTGAACAGTGCCTGGCACATAACAGGTGCTCAAAAACTATTTGCTGAATAAACAGCA CAGACCTAGATAATTTCCCTTACATGCAACCTTTTTGGAAAGCCATAAAAATGTAAGGAAAGT TGGAAGGGCTAAGTTGGGGGGTTTCCAAAGAGCTTTATAGTCTCATGAATCTTCATGCAGTA TCCTAATGTAAAAAACAGAAATTTAATTAAAGAAAAAAGCAAGAGATACGAGTCTCCCTTTCC AAGTACAAAAACAAGCACCCCAACTCCCCTCAAGAAAACAGAAGGCTCAATATCTTTACCAA CAATTATTAGAGCCACAGAATACATTCCAAAATGTCATCCAGAAGTTGCTGTCTTAAGCAGCA **GGAAATAATCTAATGACATTATACCACATAAAAATATATTTGCCTGCTCCTCTTCCAGTAGAAT AGTGAGATCCAACCACCTTGGGAGACTCTTCCTCCACCCCACTCCCATTACATAGAGTGTAA TAACGGACGCGTGGTCGACTCCCTANN** >714

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>716

>717

>718

>719

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cgg tacccccaacgctgctcacagaagaggcaagattaatttcct TGACATTGAGGAGTTGTTGGATAATTACTAAAŤŤTGTCCTTĞTŤAAATAÄAĞĞŤATAÄAACAAAGATGTTTTTTCTTTTTTAATTTAAATT TTTTACAGAGCTGAGTGTAAAAATGTTAACTATGTTTTCTTTAACAGAAAGTTCTGTTTTTGTG ATCCTTTTAAAAATAAAGCTTCACGGAAGGTATGAGAATAGTATTTTTCAACTTTAAATTTCTC ATTACCAGAAGACCATGTGGTAATTCTCTGTATACAGTTAGAACAGCACGGAAACTTGAAGG CCTAAAAAATTAGCTGACCTTGTTAAAAATGTTGGCGTGAGCAGTATATTATTACCTATCTTTT TTTATTGTGTGTGTGTGTGTGTTTTAAACTAATTGGCTGAAATATCTGCCTGTTTCCCTC TTTACATTTTCTTGTTTCTTTCCTTATTTATCTTTGTCCATCTTGAGATCTACTGTAAAGTGAA TTTTTTAATGAAAACAGTTCCAAGTTTTACTCTCAGTGGGTTTGGGACATCAGATGTAATTGA GAGGCCAACAGGTAAGTCTTCATGTCAGTGTTTGTTGAGGAACGAGCCTATGAGGTCAGTTT TCCCAAAAGGAAAAAGGCAGAAGGGATTTGTTCATTTTTACATCTCGTTTCTGTAATACACC TTTGACTTCATGGTTGATCAGACTTTGAAGTCTAAACAGAACGTAAGCACTTGGTGTATCGAT TTTTTTTTAATCTAGCTTTTCAGCTGATAATGGTTACACGTGGTATTATTTCAAGTCCAAGAT ATTATGTATTCTATTTTAACTGTTTCCCAGTTTTGTATTTTTTGTATTGGAATGATTATGAAATT AATGAGAAATCTTTAGAAACAGACTACAAAAGAGTAGTTCTTAAATACAGAAGTGATTGTGAA **ACTTTGTGATAGCAATGTGTGTAGTAGCAGTTTTGTCTCAAATACATTTATCATTTGTTACTCA** AAGGATGTTGAAGTATTAAAAGTCATTATGCTGTCTGTGGAATCCTACTATTAGTACAGAACA TGGCCCTTTAATTCAAGTAATTGGTCAGTATCCGTATGGGTCTTTTATACCACCCGCTGGGG GCTAAACTAATTTAGCTGCTGCTGTATACTTACTAACAAGGAATAAATGTTAAGCTTTCTTCTC AGTATTGATGGATGGTATCTAAAAGTATTTTTATGTTTCTTTAACATGGCTTAAATTTTGAACTT **AATGTATCAAGTTAGTATGGTCATATTAATACCTGTGCTTTTCAGATTCTTCAAACACCTAAAT** GAAAGTGATAAATTCAAAACTGATCCTTTTAGTTCCTCATTATATGATATGAAGGGATTAACTG TAGCAGGATAGTCAACCTGACCGTACGGCATGGTGCTTTTTTTCAGGATAAATCTTCAGACA **AAAAAGTGCAAACAAAAGGGAAAAAGGGGAGCAAAGGGAAAACAGGCCGAAGTGGCTAACCA** AGAAACTAAAGAAGACTTACCTGCGGAAAACGGGGAAACGAAGACTGAGGAGAGTCCAGCC TCTGATGAAGCAGGAGAAAGAAGCCAAGTCTGATTAATAACCATATACCATGTCTTATCA GTGGTCCCTGTCTCCCTTCTTGTACAATCCAGAGGAATATTTTTATCAACTATTTTGTAAATGC AAGTTTTTTAGTAGCTCTAGAAACATTTTTAAGAAGGAGGGAATCCCACCTCATCCCATTTTTT **AAGTGTAAATGCTTTTTTTAAGAGGTGAAATCATTTGCTGGTTGTTTATTTTTTGGTACAACCA** gttaacattccacagatggggggttagtttgtatatcCTAtaatacagagcatATTAAAtggcAATATGGAGTCAGTCCTG CATITAATGTCTTGAACATTTTAAATTACTTCTATTACCATGTTGTTTTTTAGTAGAATTGTTTC CTAAAGAAAACCACTCTTTGATCATGGCTCTCTCTGCCAGAATTGTGTGCACTCTGTAACATC TTTGTGGTAGTCCTGTTTTCCTAATAACTTTGTTACTGTGCTGTGAAAGATTACAGATTTGAAC ATGTAGTGTACGTGCTATTGAGTTGTGAACTGGTGGGCCGTATGTAACAGCTGACCAACGTG **AAGATACTGGTACTTGATAGCCTC**

PCT/US00/33312 WO 01/42467 816

Table 4

AAGTTTTGATAGTCACAGAACTGTATCGTCACACTATTTTTTAATTTCAGTAAGTTCTTCACTG ATCCCTGTGTAATTTAGAAATGTTTCATAATTTCCCTACATTGGAGGGGAAGATAGTTTTGTTT TTATTATTAATITCTAGCTGTATTGAGCTCTTGTCAGAGAATATGGTTTATTTTAGTCGTTTGA AATTTAAGATCTGCTTAATGGCAAAATGTATGGTCAGTTTTTGTAAATGTTGCCAGTAAGCTT GCGAATCATATGTACTCTAGTTTTGAAATCCATTGCTCAGTGGATGTTCATTAGGCCAATTTG TATAATCATGTTGTACAAATCTATTCTGTTCTTAACTGTTTTTTGTTTTAAAGGTGTGGGGTCT TACTATGTTGCCCGGGCTGGACTCAAATTCCTCAGCCTCCCAAGTATCTAGAACTACAGGCA >724

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ACTCACTTAAATAAATAATTGGTAAGATGATTTTATCTGACAATTAAAAAAAGGTATAT GTGAAAAACCTTAAAAAAAATCTATTTCATTACATGTTGAAATGTTCTGTGCTTAATCCAATAC ATCATTTAAATTCTTTTCACATTTGGACAACAGAAAAACTGAAATCTATGGATTCCAAGCTGCA AAGTATTTTATCTAAATTGCAAATCAAAAAACATCTATAACATCTTGTTGGGGATACAAAGTTC **TCCTGGCTGATTCTCATGCTACAGAAAGCCCGAGTTTCTGTTCTGTAAATTGGGACAAGTGC CCGCN**

>727 ACATTCTATTGTTATCTCTATTTTTTGGATGAAAAAACAGCAGCACAAAGAAGTTCAG TAACTGGCCTAAGGCCACACGCTTGTCTTCCTGAAGACTGGACCCAAACCCAGGCAGTCA TAGAACATGCTGGTCGCTATTGGGCCGCTTGCTCTATGGGGGACGGTGCTCCAGGAACACA ACCACTGAGTGCAGTTTTTCTAAATCTTTTCCCCACTTTGATATGTGGTCCATAAAACTGCTT CCACACGTATAACCCACTGTGAAGTTTAAAATGATTTCATGTTTGGGCAAATTCCTACTGAAT **GTTAAGCTAGATAGGAAACAAGTTCTGACTAACACAAANN** >728

>729

ACTTATCAGGATGAAATCAGAATCACAGTTGGCCTTTTGCCATAAGGGAAGGGTATT TGGAGAAGAGTCAACCACTCATGCCTCTCCCCTGCCCAGCAGCACCTTGGATTTTCCTG GCTTTATGCCTCCTGTTTCCCCTGGCTGAGTAACTGCAGGCATTAGGTTCCTCTACACACGA TATATTACAGGGAAATGGCAGCGATGGTCTGGAAGGGCAACACTGGCCTTCTTTCCTCCTGA GCACTAAAATCCTAAACATGCAACTTAAAAAAAAAAATTCTAAATGTGAACACCACCTTTCAGTA **ACTCCAATATACCAATTTGTTTGAACAGTTTTACATTCTAAGTGTCCAACTATTGCTAAAGGAA** TGGATAAATTGTTGT >730

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Table 4

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NNNNNNNNNNNNNNNNNNNNNNNNNNNNNCAACACAAATCGCTTTTAGATACCCTTTCACGAAT CTAATAGGTTGTCACACACACTGTACAAAACTATGTGAGAACGTATACTACTTCTCGGCCACAAC TACTATTTTTAGATATTCATAAAAAAAAACCTCTGATTGTGTTTTCACATTGACCCATTCAGTTCT GTCCAATCTTATAATTCTGATTAAATGTTCTGGGCCTCAAAACTAATTTTTAAAAGGCCACTAA CTCCAAATCTAGGAACAAACACTCTGTAAGACTACTGTAACTTGTATAAAATTAACTTGAAAA ATTCACTCACTCCAATAAAACTATGATTTATGTAGCTCATAAGAGGGTGAATTTTGAATATTTA CTCTATGAAAAAGCCTAAGCAATTCAATAAAAACTTGATAACTGCACGTTTAGTTTGCAGCAT CTTGTACCTGCCCNNNN

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>737

Table 4

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TTACTAATAGAAGTCCCATGGACTTAAGATCTGAGCAAATAAAGCTTTAATCTTCTTAAGCATA TAATTACTGGCATTTGAAAAGGCATGACATT >742

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GTCGACCCACGCGTCCGACTTGGCCGGGGACGCGCTGATGGGAGGATGGACATAC TGGTGTCTGAGTGCTCCGCGCGCGCTGCTGCAGCAGGAAGAAGAGATTAAATCTCTGACTGC TGAAATTGACCGGTTGAAAAACTGTGGCTGTTTAGGAGCTTCTCCAAATTTGGAGCAGTTAC AAGAAGAAAATTAAAATTAAAGTATCGACTGAATATTCTTCGAAAGAGTCTTCAGGCAGAAA GGAACAAACCAACTAAAAATATGATTAACATTATTAGCCGCCTACAAGAGGTCTTTGGTCATG CAATTAAGGCTGCATATCCAGATTTGGAAAATCCTCCTCTGCTAGTGACACCAAGTCAGCAG GCCAAGTTTGGGGACTATCAGTGTAATAGTGCTATGGGTATTTCTCAGGTGATGTATTGTCAT GACTCTTGGCTGTTTGATTTTTTTAAGTATTATTATCATCATTGCCATTTACAGAAATAATACTA TTACAAGTTGTATCCTTAGTGAAAAGGACATTTGCCACAGTTTGAAAAACTTGAGAAAGGAGT TGGGGGGTATATGTTTTAACTTTTTTAGGCACAATTTTTAAGGTTTGGTTAAATTTTATATGT ATTCTCAATATTTAAGGGCAATCATTGGTACTCTTTTGTTTAGGTATTTCCCTCCTGCTGTGTC CAGGATTGCTGTGTGGTGGTGATGAGTGCTGGGAGGTGAAAAATTAAAATAAGCCATTTACC AGTCAGCATCCCAATTAAATATTTGATGTAACTGTGATCTTTGAGCCAGGCTTATATATTCATT TTCAAGCAGAGGAGTTCCCCATTTTAAATAGAGGCATTGTCTGATGTGTTTATGGTTAACTGC ATCTGGCTTGGGTCTTTCTGTTTTCCTTTCTTTGCTGAATTAGAAGGGGTTACTCTGAAGAGT CCAGGTCTTACAGTGTGGTTT >748

NCTAATTTAGAAGGTTGTTTACAAACCCTTTGGAAAGGAATCTTTTATTTCCCAATTTA AAAGGGGTTTGGATTTCCTTAAGAAGAGGCAAAATTTTTTTGTGTGGGACCCATGCATAAAAA CTTTTCCAAATCAAGGATAAATATCTTACGCACGATATCTAGTGACAGAGGAGAAAGTGGAAA ATGACCTCAAGGAAGCTACGGGCACAACTGGAAGCTTTGTAGAAATTAAACATATTCAAGGA GCAAGAAATGAACTTTCAGCAGTCTAAATTTTCTAAATAACCAATAGTTGCCAATCTAAAATG GCAGAGAAGATGAAATTTGATAAACTGAATTTTTTTAAAAAATCCATTTACCCTACAGGTTTGC CAATAAATTCTAAATTACAAAGGTAAGAGAAAACCTAGTACATTACTAAATATAAAGTATAT GTTCTGATTATGTATACTTGTTCTAGTGTCAAGTCTTTTTAAGTGGGTTTTTAAAAGTTTGTTA TTGGACTTGAATGGATTTTTGAGACTAGGTTAATTATTTTTGAGGTCTTATCCTAAAAGGCATC TAAGGTACATGAATGGAGTATGGTGATTTTATAACATTTTTTATCAGAATGGAAAAAGAACTG TTTAAAAGTTTGATACTTTTAAATAGTTGGTTTTTTTGCTTACTCTGGTAATGATTTTCTACAAA TACATAATAAATTGTTTTTTGATTCTATATTCTGTATGCAGTTGAATATCCATTACTTATTCTG CTGTGCTTTAATAGAATGGAATGTTTACAGGCCCTTAAAATATTATTTTTAAAAAAACCTTCTGA AGATACATACCAAAGTTTTTCCAAGAAGATTTTATAATCAATTTAATAATGTAAGGTTTATCAG **ATTCTATAATAGTATAGTTATTAAGGCAATTTTATGTTAGAGACTATTTTGTAATGTAGTGAGT**

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AAATTAAAGGACATTTGATAGTCTACTGAATGTAAAATTAATGCTTGGTATATTGAATGAN
>750

>752

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Table 4

at cacca cag c cacca caga cacca caca caga cacca cacc

>753

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>756
>757

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>758

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>759

>760

>761

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Table 4

>763

>764

>765

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AAATGATTGGCAGGATATTGGGAAATAGAATGAAGGGCGGAAAGAATTTCACATGGATTCAG
TATACTCTCCGTCAGGAATTTTTGTTCCCTTGATCTTTTTGTGTTTATTGCCNNNNNNNNN
NNNNNN

>766

>767

>768

>769

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ATAATTTCAAGCTTAGAGAAAAGTTGTAAGAATGGCATAAGGAACTCCTATATATCCTTTATCT
AGATTCACTAAATGTTCATTTTTGTGCCATTTGTGTTATTCTTTGTCCCATCCTAGCCCAGTCAG
CCTAACACCACCAGGGATAAACCAGTAGTCTGAN
>770

AAGGGACTTGAGGGCTACAGCTGCTCATCTGGAAAGAATCCTTGTAAGACCAGTCCTCTGTC CAACCAGAGTTAGGAGGCATCTGACAATTTGCCTGATTAGCTGT >771

>772

>773

>774

>775

>776

NNNNNNNNNNNNNNNNNNNNNNNNNGGNCTGCGTGGAGAGGATGGATGGGA GGGGGAAGAACNAGAGCTTTGTTTAGAGGCTGTTGTAGTAATCCAGGTAAAGGCTTTTAATC ATGTCCTGAACAATGATCAGCAATGGCAATGGAGATGACAGAACAGAATTTAAGAAGGAATA AAAAAGGCTTGCTGACTACTTGGATGTGGGTGATGCTATCCTTTGACACAAAGGANNNNN >777

NNNNCCGCGGCGGCTGCTGCTGCAGTGGGACAGGTGGCGGCGACCGGCGGC GTCCGAGGAGATTTAATCCAGAGACTGACTTCACTATAGAACCCACAGTTGTATCAATGGTT GGGGAAAGATAGTGGCAACAGGCAAAGGAGAAACAGCTCTGACATACAAAGAAAATGAGTA TGCTAAAGCCAAGTGGGCTTAAGGCCCCCACCAAGATCCTGAAGCCTGGAAGCACAGCTCT GAAGACACCTACGGCTGTTGTAGCTCCAGTAGAAAAAACCATATCCAGTGAAAAAGCATCAA GCACTCCATCATCTGAGACTCAGGAGGAATTTGTGGATGACTTTCGAGTTGGGGAGCGAGT TTGGGTGAATGGAAATAAGCCTGGATTTATCCAGTTTCTTGGAGAAACCCAGTTTGCACCAG GCCAGTGGGCTGGAATTGTTTTAGATGAACCCATAGGCAAGAACGATGGTTCGGTGGCAGG AGTTCGGTATTTCCAGTGTGAACCTTTAAAGGGCATATTTACCCGACCTTCAAAGTTAACAAG TCACCGCTGTGCACTTCTACGGCCAGCATGGTGTCTTCCTCCCCCTCCACCCCTTCAAACAT CCCTCAGAAACCATCACAGCCAGCAGCAAAGGAACCTTCAGCTACGCCTCCGATCAGCAAC CGGTTTCTTGGGGAGACCGACTTTGCCAAGGGGGAGTGGTGTGGCGTGGAGTTAGATGAG CCACTTGGGAAGAATGATGGCGCTGTTGCTGGAACAAGGTATTTTCAGTGTCAACCCAAATA TGGCTTGTTCGCTCCTGTCCACAAAGTTACCAAGATTGGCTTCCCTTCCACTACACCAGCCA AAGCCAAGGCCAACGCAGTGAGGCGAGTGATGGCGACCACGTCCGCCAGCCTGAAGCGCA GCCCTTCTGCCTCTCCCTCAGCTCCATGAGCTCAGTGGCCTCCTCTGTGAGCAGCAGGCC CAGTCGGACAGGACTATTGACTGAAACCTCCTCCCGTTACGCCAGGAAGATCTCCGGTACC ACTGCCCTCCAGGAGGCCCTGAAGGAGAAGCAGCAGCACATTGAGCAGCTGCTGGCGGAA CGGGATCTGGAGAGGGCGGAGGTGGCCAAGGCCACGAGCCACGTGGGGGAGATAGAGCA GGAGCTAGCTCTGGCCCGGGACGGACATGACCAGCATGTCCTGGAATTGGAAGCCAAAATG GACCAGCTGCGAACAATGGTGGAAGCTGCTGACAGGGAGAAGGTGGAGCTTCTCAACCAG CTTGAAGAGGAGAAAAGGAAGGTTGAGGACCTTCAGTTCCGGGTTGAAGAAGAATCAATTAC CAAAGGTGATCTTGAGACGCAGACCAAACTGGAGCATGCCCGCATTAAGGAGCTTGAACAG AGCCTGCTCTTTGAAAAGACCAAAGCTGACAAACTCCAGAGGGAGTTAGAAGACACTAGGG TGGCTACAGTTTCAGAAAAGTCACGTATAATGGAACTGGAGAAAGACCTAGCATTGAGAGTA CAGGAAGTAGCTGAGCTCCGAAGAAGGCTAGAGTCCAATAAGCCTGCTGGGGATGTGGACA TGTCACTTTCCCTTTTGCAAGAGATAAGCTCTTTGCAAGAAAAGTTAGAAGTCACCCGTACTG **ACCACCAGAGAGAAATAACTTCTCTGAAGGAGCATTTTTGGAGCCCGGGAAGAAACTCATCAG** AAGGAGATAAAGGCTCTGTATACCGCCACGGAAAAGCTTTCCAAAGAGAACGAGTCATTGAA AAGCAAGCTGGAGCATGCCAACAAAGAGAACTCAGATGTGATAGCTCTATGGAAGTCCAAAC TGGAGACTGCCATCGCATCCCACCAGCAGGCGATGGAAGAACTGAAGGTATCTTTCAGCAA

Table 4

AGGGCTTGGAACAGAGACGGCAGAATTTGCTGAACTAAAAACACAAATAGAGAAAATGAGAC TAGATTACCAACACGAAATAGAAAATTTGCAGAATCAACAAGACTCTGAACGGGCTGCCCAT GCTAAAGAGATGGAAGCCTTGAGGGCTAAACTGATGAAAGTTATTAAAGAAAAGGAAAACAG TCTGGAAGCCATCAGGTCGAAACTGGACAAAGCAGAAGACCAGCATCTCGTAGAAATGGAA GACACGTTAAACAAATTACAGGAAGCTGAAATAAAGGTAAAGGAGCTAGAGGTACTGCAAGC CAAATGCAATGAACAAACCAAGGTTATTGATAATTTTACATCACAGCTCAAGGCTACTGAAGA AAAGCTCTTGGATCTTGATGCACTTCGGAAAGCCAGTTCCGAAGGTAAATCGGAAATGAAGA AACTTAGACAGCAGCTTGAGGCAGCTGAGAAACAGATTAAACATTTAGAGATTGAAAAGAAT GCTGAAAGTAGCAAGGCTAGTAGCATTACCAGAGAGCTCCAGGGGAGAGAGCTAAAGCTTA CTAACCTTCAGGAAAATTTGAGTGAAGTCAGTCAAGTGAAAGAGACTTTGGAAAAAAGAACTT CAGATTTTGAAAGAAAAGTTTGCTGAAGCTTCAGAGGAGGCAGTCTCTGTTCAGAGAAGTAT GCAAGAACTGTAAATAAGTTACACCAAAAGGAGGAACAGTTTAACATGCTGTCTTCTGACTT GGAGAAGCTGAGAGAAAACTTAGCAGATATGGAGGCAAAATTTAGAGAGAAAAGATGAGAGA GAAGAGCAGCTGATAAAGGCAAAGGAAAAACTGGAAAATGACATTGCAGAAATAATGAAGAT GTCAGGAGATAACTCTTCTCAGCTGACAAAAATGAACGATGAATTACGTCTGAAAGAAGAG ATGTAGAAGAATTACAGCTAAAACTTACAAAGGCTAATGAAAATGCAAGTTTTCTGCAAAAAA GTATTGAGGACATGACTGTCAAAGCTGAACAGAGCCAGCAAGAAGCAGCTAAAAAGCATGA GGAAGAAAGAAAGAATTGGAGAGGAAATTGTCGGACCTGGAAAAGAAAATGGAAACAAGC CACAACCAGTGTCAGGAGCTGAAAGCCAGGTATGAGAGAGCCACTTCTGAGACAAAAACCA AGCATGAAGAATCCTACAGAACCTCCAGAAGACGCTGCTGGACACAGAGGACAAGCTGAA GGGCGCACGGAGAGAACAGTGGCTTGCTGCAGGAGCTGAGAGGAGCTGAGAAAGCAAG CCGACAAAGCCAAAGCTGCTCAAACAGCGGAAGATGCCATGCAGATAATGGAACAGATGAC CAGAATGAATTGGACACACTTAAAGAAAACAACTTGAAAAATGTGGAAGAGCTGAACAAATC AAAGCAGGCAGCTCAGAAGTCCCAGCAGCTTTCAGCGTTGCAAGAAGAAGAACGTTAAA CTTGCTGAGGAGCTGGGGAGAAGCAGGGACGAAGTCACAAGTCATCAAAAGCTGGAAGAA GAAAGATCTGTGCTCAATAATCAGTTGTTAGAAATGAAAAAAAGAGAATCCAAGTTCATAAAA GACGCAGATGAAGAGAAAGCTTCCTTGCAGAAATCCATCAGTATAACTAGTGCCTTACTCAC AGAAAAGGATGCCGAGCTGGAGAAACTGAGAAATGAGGTCACAGTGCTCAGGGGAGAAAAC GCCTCTGCCAAGTCCTTGCATTCAGTTGTTCAGACTCTAGAGTCTGATAAGGTGAAGCTCGA GCTCAAGGTAAAGAACTTGGAGCTTCAACTCAAAGAAAACAAGAGGCAGCTCAGCAGCTCCT CCTAAATTCAGTAATAGTGGACCTTCAAAGGAAGAATCAAGACCTCAAGATGAAGGTGGAGA TGATGTCAGAAGCAGCCCTGAATGGGAACGGGGATGACCTAAACAATTATGACAGTGATGAT CAGGAGAAACAGTCCAAGAAGAAACCTCGCCTCTTCTGTGACATTTGTGACTGCTTTGATCT CCACGACACAGAGGATTGTCCTACCCAGGCACAGATGTCAGAGGACCCTCCCCATTCCACA CACCATGGCAGTCGGGGTGAGGAACGCCCATACTGTGAAATCTGTGAGATGTTTGGACACT GGGCCACCAACTGCAATGACGACGAAACCTTCTGATGAAGCCTCCAGTGGAGAACTGGGCT GAACTCATGTTATTTTTAACCCCGTCAACAAATCTAGGAAAATATTTTGATCTTCAACAAATT GCCCTTTAGTCTCCCCGTATGAGTTAGAATAATAAATATTTAGTAGGTGAGTTTTCACCTCGA ATTTTGTTTTCTTGATTTTTACGTTTGAAGACATTGCACCAGATGCCATTACATTTATTGGCCC CCCGACCTTGTAGAAAAACCCCTACCCTCACAATACCTTATTTAAGTAACTTTAAATTATGCC **GTTACTTTTCATATTTGCACTAAGATATTTCCAGGCTGCATTTGTATATTTAGATTTTTTGGTTA AGCTTTGACACTGGAATGAGTTGAAAAAATGTGCCATTTTGCATTTTCATCTACTCATTTAAAG** TATTTTATTCTTATTCAAAGAAATATCTGAGCTCTTTGCACTACCTGTTATCAGTAGTGCCTTT AAGCCCCCAAACTGCTGTGGGGACATTTTATAATCTATATGCTGCACCCACTTAATCTACTGT AAAAGAAAACACTTAAAATGATCATTAGGACATAACAGACTAGGCCAGACATAGCATCTTGTG GCTTTGCAACCATTTTCATTTGTTTTGTTTTCCTTTTATTTCTTCACCAGATTTAAATAACTGGAG GAATTTTCTCCAATTTTTTTTCCTTCTCTGGCAGGTATCCCCAGCAGTCAATTAACAATAAGC CAGTATAAAACACCTAAATAACCAATCTACAATCTCCCTTCACAAGTTTTTTTACTGTTTTTAG ATGAATGTACGATGAGAAATTCAACGTTAATAATTTTGGATTTTCTTATCACAAAAAAAGAAAAT

Table 4

AGTCTTTATCTGTTAGAGATATACATTGAAGTATTTAAAGGTGAATGATATGTTTGGG ATTTACTTTAAAATAATTTCAGCCCCCGCCAAAAGAGTAAGGTGTTGGGGAGGGGAAGTATA AGTAAAATAAGAATGGTGGACTATTGATAATTATTGAAGTTAGGCGGGAATACACACAGGAA CTCATGATACTATTCTTACTATTTTTTGGTATGTTAAAAAATTTCCTTAATAAGGAGTTTTTATT AATACCAGTTCTTCACATAGTCCTCCAAAAAAATAGAAGAGGGGGAATACTTCCCAGCTTCT TCTGTGAAGCTAGTATTATCCTGATAACCAGCACCAAAGACATGACTGCTTACTGCAACTCG GGCCTTCCCCAGATGTACCTAATGCCCAGCCAGCTTTGGAAGGCCGTACAAGTTTTCCCG AGGATACTGTAATAACGTACAAATGTGAAGAAAGCTTTGTGAATTCCTGGCGAGAAGGACTC AGTGATCTGCCTTAAGGGCAGTCAATGGTCAGATATTGACACGAGTTCTGCAATCGTAGCTG CGAGGTGCCAACAAGGCTAAATTCTGCATCCCTCAAACAGCCTTATATCACTCAGAATTATTT TCCAGTCGGTACTGTTGTGGAATATGAGTGCCGTCCAGGTTACAGAAGAGAACCTTCTCTAT CACCAAAACTAACTTGCCTTCAGAATTCAAAATGGTCCACAGCAGTCGAATCTCGTCCCACA CCGCACAATCATGCCCTAATCCGGCGAGAAATACGAAATGGTCAGCATCGCATGTACCAGG TGCCATATTCATCCGGTGCAACATCTCCTTCTCATGTAACACAGGGTACAAATTATTTGGCTC GACTTCCTAGTCAACGTCTTACTTCCAGGCAGCTACTGTCCAAGTGGAGCTGACACGTTGCC AGAGTGCAGAAAACTTCAATTGTCCAAGAAACAGCACAACTCGACCATCCGAATAATCCACG CACCCGGACTGCGGACACCCACCCTCTCTCGTGCACCGTACCATACGCTTCAACACATCG TTACACTGCCACCCTCTATAGCAGCCGCCACCCCCACAACCCGGCGTCGCACCCTAGTCC CAAGCACCACCACTCCCCCACACACCCCCCTTTCGGTACACACTACAAAACCCACC CCACCAAATGCTCAGCCAACACGGAGTACACCTGTTCCCAGGACAACCAAGCATTTTCATGA **AACAACCCAAATAAAGGAAGTGGAACCACTTCAGGTACTACCCGTCTTCTATCTGGGTTCT** CGTCCCTGTCACCCCAGGCTGGTATGCGGTGGGTGTGATCGTAGCTCACTGCAGTCTCGAA CTCCTGGGTTCAAGCGATCCTTCCACTTCAGCCTCCCAAGTAGCTGGTACTACAGGTGTGTG CCACGACACCCGGCTAAGTTTTTGAAATTTATTTTTTGTAGAGACAGGATTTTCCTATGTTGC CCAGGCTGGTTTCAAACTCCTGGCCGTAAGCGATTTTTCCGGCCTCCCAAAACGTTGCGATT ATAAGTGTGAGCCACTGCACCTGGCCCCACATTTTCTTTATCCATTTGTACATTGATGGACAC NNNNNNNN

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Table 4

GGGAGGCCGAGCCGGGCGCCCCGGCCCCGCGTCTAGTTGTTCATGAAGCATGTCG GCCACCAGCGTGGACACCCAGAGAACAAAAGGACAAGATAATAAAGTACAAAATGGTTCGTT ACATCAGAAGGATACAGTTCATGACAATGACTTTGAGCCCTACCTTACTGGACAGTCAAATC AGAGTAACAGTTACCCCTCAATGAGCGACCCCTACCTGTCCAGCTATTACCCGCCGTCCATT **GGATTTCCTTACTCCCTCAATGAGGCTCCGTGGTCTACTGCAGGGGACCCTCCGATTCCATA** CCTCACCACCTACGGACAGCTCAGTAACGGAGACCATCATTTTATGCACGATGCTGTTTTTG GGCAGCCTGGGGGCCTGGGGAACAACATCTATCAGCACAGGTTCAATTTTTTCCCTGAAAA CCCTGCGTTCTCAGCATGGGGGACAAGTGGGTCTCAAGGTCAGCAGACCCAGAGCTCCGC GTATGGGAGCAGCTACACCTACCCCCGAGCTCCCTGGGTGGCACGGTGGTTGATGGGCA GCCAGGCTTTCACAGCGACACCCTCAGCAAGGCCCCCTCCACCCATAAAGCATAACATGGA CATTGGCACCTGGGATAACAAGGGGCCTGTGCCGAAGGCCCCAGTCCCCCAGCAGGCACC CTCTCCACAGGCTGCCCCACAGCCCCAGCAGGTGGCTCAGCCTCTCCCAGCACAGCCCCC AGCTTTGGCTCAACCGCAGTATCAGAGCCCTCAGCAGCCACCCCAGACCCGCTGGGTTGCC CCACGCAACAGAACGCGGCGTTTGGGCAGAGCGGAGGGGCTGGCAGCGATAGCAACTCT CCTGGAAACGTCCAGCCTAATTCTGCCCCCAGCGTCGAATCCCACCCCGTCCTTGAAAAACT GAAGGCTGCTCACAGCTACAACCCGAAAGAGTTTGAGTGGAATCTGAAAAAGCGGGCGTGTG TTCATCATCAAGAGCTACTCTGAGGACGACATCCACCGCTCCATTAAGTACTCCATCTGGTG TAGCACAGAGCACGCCAACAAGCGCCTGGACAGCGCCTTCCGCTGCATGAGCAGCAAGGG GCCCGTCTACCTGCTCTTCAGCGTCAATGGGAGTGGGCATTTTTGTGGGGTGGCCGAGATG AAGTCCCCGTGGACTACGGCACCAGTGCCGGGGTCTGGTCTCAGGACAAGTGGAAGGGG **AAGTTTGATGTCCAGTGGATTTTTGTTAAGGATGTACCCAATAACCAGCTCCGGCACATCAG** GCTGGAGAATAACGACAACAAACCGGTCACAAACTCCCGGGACACCCAGGAGGTGCCCTTA GAAAAAGCCAAGCAAGTGCTGAAAATTATCAGTTCCTACAAGCACACACCTCCATCTTCGA CGACTTTGCTCACTACGAGAAGCGCCAGGAGGAGGAGGAGGTGGTGCGCAAGGAACGGCA GAGTCGAAACAACAATGAGGGCGAACCAGTTTCTTACATGTTCTAACGTTTGACTTTGAAAA CAGTTTAAAACACGTGTGCTTGGTCAGCTCCAGTGTGTCCCCGTGCGGGGGTTGAGTGT AGACTGATCTAATGTGAAATGTAAGTATCCTTAAAAACAAAGCATCTATTTTGGCAGAAATTG TGTTCTTAAATTCAGTCATTTGATATTCTGTGAGACTTCATATTTCTCATCCCTTTATTGCTTTT TAGCAAACATAAGAAACCATGAGTCATTTTGTCATTTAGAGTATTCTGATAAAATCTCTTGAAA ATACTGAAATCAAAAGGTTAATGATTTTTTGTTCATTCTGATTTGTCATTTTATTATCTGTTATC GGTCTAAAGTGCTAATTTACCCATTTGATTTTTCTGCTAGACAGATAACTTTTAATTTTTCAAA GCCACCGTCCCTCACTGTCCTGGTGTCCGATTGGGCTGGATGGTGTTGGGGCATGATGTG TGGAGGAACTGGAAGGTGCTTTAGGTCTGGTTCAGGGTCGGGCATTCTTTGTTGTTTGCACA TCTTTTAAATTTTACACCTTTTCTTAAGAATTCTAATGCCGTCTTAAGTTTTTATACCAATAAT AAATTTCATCGTGTGTGTCTAATTTTTTTTCCTGTTGAATGGGTAAAAACAAAACAAAACTTTT TTTAGAAGATGAATTTGCTGTCATGTTTTGTGGAATGAGGGACCGTTGAGCTCACTACCACC TGGAGTTTGAGTTGAAGCATGAAAATGGTGCCCATGCCTGACGCTCCAGCGCCTGGATCTG CACGTGCCCTTGTAGAGGATCCTTACCGTCCTAGAGAGCAGACGCTTTCTGAAAACTACTTG CTCCAAAAGACCCTCTGAGTTAACGTTTCAGCTGTATCATTAGACTTGTATTTAGAGCGTGTC ACTTCCTCTGAACTGTTACTGCCTGAATGGAGTCCTGGACGACATTGGGTTTTTCCTCTAGG CCAGGGGGGCCCGGTACCCAATTCGCCCTATAGTGAGTCGTATTACAATTCACTGGCCGT **CGTTTTACAACGTCGTGACNNNN**

PCT/US00/33312

GGGGGCTAAGGTTCTCTACCTCGGGGCTGTCTCGGGCACCACGGTCTCCCATGTCTCTGAC **ATCGTTGGTCCGGATGGTCTAGTCTATGCAGTCGAGTTCTCCCACCGCTCTGGCCGTGACC** TCATTAACTTGGCCAAGAAGAGGACCAACATCATTCCTGTGATCGAGGATGCTCGACACCCA CCAGACCCGGATTGTGGCCCTGAATGCCCACACCTTCCTGCGTAATGGAGGACACTTTGTG **ATTTCCATTAAGGCCAACTGCATTGACTCCACAGCCTCAGCCGAGGCCGTGTTTGCCTCCGA** AGTGAAAAAGATGCAACAGGAGAACATGAAGCCGCAGGAGCAGTTGACCCTTGAGCCATAT GAAAGAGACCATGCCGTGGTCGTGGGAGTGTACAGGCCACCCCCCAAGGTGAAGAACTGA **AGTTCAGCGCTGTCAGGATTGCGAGAGATGTGTTGATACTGctgtggtttgaatgttccctccaacactc** $atgttgagacttaatccctaatgtggcaatactgaaaggtggggcct \verb|TTGAGATGTGATTGGATCGTAAGGCTGTGC| \\$ CTTCATTCATGGGTTAATGGATTAATGGGTTATCACAGGAATGGGACTGGTGGCTTTATAAG AAGAGGAAAAGAGAACTGAGCTAGCATGCCCAGCCCACAGAGAGCCTCCACTAGAGTGATG CTAAGTGGAAATGTGAGGTGCAGCTGCCACAGAGGGCCCCCACCAGGGAAATGTCTAGTGT CTAGTGGATCCAGGCCACAGGAAAGAGTGCCTTGTGGAGCGCTGGGAGCAGGACCTGACC ACCACCAGGACCCCAGAACTGTGGAGTCAGTGGCAGCATGCAGCGCCCCCTTGGGAAAGC TTTAGGCACCAGCCTGCAACCCATTCGAGCAGCCACGTAGGCTGCACCCAGCAAAGCCACA GGCACGGGGCTACCTGAGGCCTTGGGGGCCCAATCCCTGCTCCAGTGTGTCCGTGAGGCA GCACACGAAGTCAAAAGAGATTATTCTCTTCCCACAGATACCTTTTCTCTCCCATGACCctttaA CAGCATCTGCTTCATTCCCCTCACCTTCCCAGGCTGATCTGAGGTAAActiiGaagaaaaTAAAAG CTgtgtttgagca >782

NNACAGAGAGTGGTACATGAATGACTAGTTTTCTAAGATGTCCTTTTTATTGTGAATA **AAATATAAAAGTTAAAGGCCCTCTGCTAAGTCACATAAAGTACAGCATATAAGTTCATATAGG** TACAAATAAATGAGTTTGCAGTGAATTGGGCCTTCAAATTACCTCAAGTGACAGATAGTAAGA AAAGCTTCTTGAGCAGGTGGAGGTCACTGAATCCCCTACTATGCACTTATCAAGATTTTACTT ACTITAATTTACTGGAAATTGATTTTTTAAAAAATGACTACACTGTAACAAGGGAAGGGATCT GGGTTTTTTGTTGTTTTTATTCTTGTTTTTTTAAGTAGTTCAAATTCTGAAACTGTGATTTAAA AATTTTTTACAGTCAAGCATTCTGATTTTGAACATAACTCCCTTCCCTTTCTGTGTAACAAAGG CTGTCATTGTCTATGGATGTTTACCTCTCTGTTCTCCTAAAAGTTTGAAGATTAGGTCAACTCT GCTGACGTATTTTTATACTCAAGTGTAGTTTTCTATTAAAAAGAAAAGTGGTTGGATTAAAAAT AGTAAGCTATGTAACCCTCATGTTACTTTCACTTTCAAATATTGGGTACCTAAAACATTACTTC AGAGATTATGTAATCCTATTATAGTATGTTTGCTTTCCTTTATTGTTGGATTTTACATTCTGATT TGGCTTTCCTCCAAAAAATGTATATCATGAAAGACTAGACAGTTATTTGCAAGTGTTTAGAAA GGTGTTAAAAATGTAAAGCAAAGAGTCTTAACTTTCTCCTAATTGGGAGAAAAATGCTTTAAC ATTACTATAATAATATTCCAGGTTTGGAGGGGGTCTCCAGGCCCCATATTTGCTGTTAATAGT TGGACCTTTTAGACCATGTGTTATTTGCAATCCCAGAATGATTGCTTCTGCTATTAGTTAAAAA GATACTATTCTTTTCTGTACAAGTGCAATACTCCCCTTGAAGTCTTAAAAACTATGGTGA TTTTTTTTCTTTCTGACCTATTCTTCCTTTAGCTAATGACAAAAAGAAACTCATAAAAGTCAT AGTATGTTAAAGGACACAACAAGCAAAGAGAAAAACACTCCACAATCAAAAGATTACAGAAT **GTGGAAACCACTAGTCTGATCTCATGGTATCTTTATTTAAGCTAAATTTCCATGGAAATTAGTA ATCTTTTGCTTGAAAAATGTGTCCTAAAGTTGAACTTTTTACAGATTGAATCTTCTTAGACCCT** CGCCCAATGCTCTAAATTAAGAACCTAATACTTAATATTTTTACTTCTCCCCTTTTAGAA ATAAACTTTTAAATAAAAGCAAAGCACTTAGCTGAGTTTTAAACACTTACATATCACCTATTGG TTTCTTATACATATTTATATGTAGTGTGCTAATTTTCTTTTTTATACCTGTGTCCCTGTAGTAA AACTGCTGTAATATAAATACATGTTTTGTTAAAAGATAACATTTCTTTGGCATTTCTTTTAAAG ACAATACCAAAGGTAATTAGACTATTTTAAAGACTAATTGCTTGACAGTTTCTAGGGTATTTTG >783

ATTATTTTATATGTTATGTATATTTTAGGAGACAAATGAACATTTGTCTGTATCTGAA TCAACTGTACCACCCAAAAAGTGTGTGCCACACTGCATTGGCCTGGGACATAAAACTGGAAG CTAAACCTAGTATATTTTCCTTACATCCTCTGGGTACCAGGAGTCATGTTTGACAGCTTCTCT GCTTTTCTGACGCATGGCTTCCTTTTGTTCACAATTTTCTTACTGTAAGTCTTTCAGAGGTGG

Table 4

>785

GAAACTCCTTTACACTCTCCAGCCTCTCACCGCAAAATTACACACCCCAGTACACCAGCAGA GGAAACTTATAACCTCGGGAGGCAGGTCCTTCCCCTCAGTGCGGTCACATACTTCCAGAAG AGCGGACCAGGGCTGCCAGCACCTGCCACTCAGAGCGCCTCTGTCGCTGGGACCCTT CAGAACTCTCTTTGCTCACAAGTTACCAAAAAAAAAAAGAGCCAACATGTTGGTATTGCTGGCT GGTATCTTTGTGGTCCACATCGCTACTGTTATTATGCTATTTGTTAGCACCATTGCCAATGTC TGGTTGGTTTCCAATACGGTAGATGCATCAGTAGGTCTTTGGAAAAACTGTACCAACATTAG CTGCAGTGACAGCCTGTCATATGCCAGTGAAGATGCCCTCAAGACAGTGCAGGCCTTCATG ATTCTCTCTATCATCTTCTGTGTCATTGCCCTCCTGGTCTTCGTGTTCCAGCTCTTCACCATG TTGTGGGGGTGTCCATCTACACTAGTCATTATGCGAATCGTGATGGAACGCAGTATCACCAC **GGCTATTCCTACATCCTGGGCTGGATCTGCTTCTGCTTCAGCTTCATCATCGGCGTTCTCTA** AGGAAGCCGTTGAATCTGGGAGGGAAGTGGAGGTTGCTGTACAGGAAAAACCGAGATAGG GGAGGGGGGGGGAGCAAAGGGGGGGGGGTCAAATCCCAAACCATTACTGAGGGGATT CTCTACTGCCAAGCCCCTGCCCTGGGGAAAAGTAGTTGGCTAGTACTTTGATGCTCCCTTG **ATGGGGTCCAGAGAGCCTCCCTGCAGCCACCAGACTTGGCCTCCAGCTGTTCTTAGTGACA** CACACTGTCTGGGGCCCCATCAGCTGCCACAACACCAGCCCCACTTCTGGGTCATGCACTG **AGGTCCACAGACCTACTGCACTGAGTTAAAATAGCGGTACAAGTTCTGGCAAGAGCAGATAC** TGTCTTTGTGCTGAATACGCTAAGCCTGGAAGCCATCCTGCCCTTCTGACCCAAAGCAAAAC **ATCACATTCCAGTCTGAAGTGCCTACTGGGGGGGCTTTGGCCTGTGAGCCATTGTCCCTCTTT GGAACAGATATTTAGCTCTGTGGAATTCAGTGACAAAATGGGAGGAGGAAAGAGAGTTTGTA** AGGTCATGCTGGTGGGTTAGCTAAACCAAGAAGGAGACCTTTTCACAATGGAAAACCTGGG **GGATGGTCAGAGCCCAGTCGAGACCTCACACACGGCTGTCCCTCATGGAGACCTCATGCCA** TGGTCTTTGCTAGGCCTCTTGCTGAAAGCCAAGGCAGCTCTTCTGGAGTTTCTCTAAAGTCA CTAGTGAACAATTCGGTGGTAAAAGTACCACACAAACTATGGGATCCAAGGGGCAGTCTTGC **GTATACAACAGGAGAGAGATGGACATGGCTCATTGTAGCACAATCCTATTACTCTTCCTCTAA** CATTTTTGAGGAAGTTTTGTCTAATTATCAATATTGAGGATCAGGGCTCCTAGGCTCAGTGGT AGCTCTGGCTTAGACACCACCTGGAGTGATCACCTCTTGGGGACCCTGCCTATCCCACTTCA CAGGTGAGGCATGGCAATTCTGGAAGCTGATTAAAACACACATAAACCAAAACCAAACAACA

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Table 4

GGCCCTTGGGTGAAAGGTGCTATATAATTGTGAAGTATTAAGCCTACCGTATTTCAGCCATG AGGTGATGGGCAGATCTTTTCTTTAAAATAAAAAGCAAAAACTCTTGTGGTACCTAGTCAGA TGGTAGACGAGCTGTCTGCCGCAGGAGCACCTCTATACAGGACTTAGAAGTAGTATGTT ATTCCTGGTTAAGCAGGCATTGCTTTGCCCTGGAGCAGCTATTTTAAGCCATCTCAGATTCT GTCTAAAGGGGTTTTTTGGGAAGACGTTTTCTTTATCGCCCTGAGAAGATCTACCCCAGGGA TCCTTTTTGGGGAGTTGTTATGCCATGATTTTTGGTATTTATGTAAAAGGATTATTACTAATTC TATTTCTCTATGTTTATTCTAGTTAAGGAAATGTTGAGGGCAAGCCACCAAATTACCTAGGCT GAGGTTAGAGAGATTGGCCAGCAAAAACTGTGGGAAGATGAACTTTGTCATTATGATTTCAT TATCACATGATTATAGAAGGCTGTCTTAGTGCAAAAAACATACTTACATTTCAGACATATCCAA AGGGAATACTCACATTTTGTTAAGAAGTTGAACTATGACTGGAGTAAACCATGTATTCCCTTA TCTTTTACTTTTTTCTGTGACATTTATGTCTCATGTAATTTGCATTACTCTGGTGGATTGTTCT AGTACTGTATTGGGCTTCTTCGTTAATAGATTATTTCATATACTATAATTGTAAATATTTTGATA CAAATGTTTATAACTCTAGGGATATAAAAACAGATTCTGATTCCCTTGAATGTGTGAATGTTTT TTTCTAAAAAAATGTGGAGAAATATGGATAATTATGACATTTATCCCTCATTAAGCTGCCTAT CAGTTTGATTTGGACAACTTGACATTTATTTGAGACATTAAGCTACTTTCTGGTAATATTAG GCATTTCTGCAATAGCTCTTTCAGGTAACTGAATATTATTAAGCATAGTTTTATCTTGCTTTGA TTAAACCTCTTAGGCAAAAAATGGAACTTCATAAGCTAATACATTAGAAAGGGGTTATGATTA TAAATCAGAAATGCTTGTGACATTAAGAAATGAGGCACTTGTGAAATTTCTTTGAAATAGCCA CTTCACTACTTTCTGTGAGCAGTAAGGACTGGTATCTTTCTGTGAGCAATAAGGACTGGATAA AGACTGCATATCCTTGTGTCGTGTCAGCACCAATACAATAAGGAGGGTTTTAATGTGAAGCA GGCAATCTTCCAGCCCCTTCTGGTCTTGGATGAAATAGTTGCACAGAGTATTGCACCAAAAA TACACAATGGAGGCTGAAAAGTTCAACATATTTTAAGTCAATTAATCAAATTGCATTGATTCTT GATGCTTTCTTAGAGGCCTACATGATTTCTTAGATTGCTCTGATAAACTATCATAAGGGGTCC ACCTCCCTCATTTAGCTCCCCCAGGGATTTCTTTTCCCCCCATGTCATACACCCAGTCCTAAA TCAACCCCAAGGCTATCCTTCCATCCCTTCTGCAGAGGGAACTTTTGTCAGACTCTGCAAC **AAACTCCTAGCTCTATCCAGAGTGTCCTCTGCTGCTAAGATTGGTATCTTTCTCCTCAAAAGC** CTGGATGGTGAATGGGGGTGCATTAGTCAGAATTCTCCAGAGAAAACAGAAAAAAATAAGATTC >788

ACTTTAATTTCTTTATAATTTGTTCAGCTATTTAAAAAGATAATCCACAATCTCCTACC
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AACCACCGGGCAAAATGTTTGAACACTGAAGACGGGAATTTTTTTAGGGCCATNTCAAGACCA
TGTTGAAGGTAACTGGGAAAGTCCTGGATAGAAATAGANNNNN
>790

>791

>789

ACTAATTCTTTTCCTCTTTCCTAGACCGATTCTAGTTTGTTGCCTTCCCTTTCCTCGG
AAACCCCAAGTTTGTGGATGCTGCAGACACTCTGTGCCCCCCTGCATGCTGGGTGCCTGGC
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GCCCCAGTTCTTCCATGTTAGGTGATTTCTTGCAGCTCTTGGTATCTGCAGAATTAGTGTGAA
TGCTTAAAAAAATATTAACAGCTTTATATCATGAAAGTTTTAACATGN

Table 4

>792

agGGCCGqttagaGAACTGCGCATCAGATGCGTGGccagaAAGTTCTTATATTTATGGAT TCGAATĞACTTTTGGAAGAGTATTTCCCTCTAAAGCCAGGTAGTATTAGCTCAGAACAACATA ATTGTGTTGAGTTCATTCTAGGGTTTTCTTTTATATTAAGCCTGTATATAAACTTCATTATGGC TTGTGCTGTTACATTCCTCCCCAGCCTCCAGTAGGTAGAAGCAGTCCCTAATATAACCATGT **AATACAGTGGTAACTTCATATCTGTTAGTTGACTGCAGCTGCATTCATGGTGAGCTGTGAATG** >793

>794

ACGAACTTAAATTTATGATGAATATCTTTGATAATGAGAAATCCTGAGAGATTTTACTT TCAATTTTATTTTAATTTGAAAGAGCATATGACATCTGGAATATTTTTAACATATAGCCATACT GTTTATTTAAATTTGTAATAATAGAAATAGAGTAATTCTACTGTTGGATTTTAATTTTTAATCAT TAATTTAGGACTTTTGGGAAAAGATATTTCAGAAGTTCAGTGCATATCAAAAAAGCGAACAAC AGAGGCTTCATCTTTTGAAAACTTCATTGGCTAAAAGTGTCTTCTGTAATACTGATAGTGAAG **AAACTGTTTTTACATCCGAGATGTGTTTGATGAAAGAAGATATGAAAGTGCTGCAAGACAGG** CTTCTTTAGGACATGCTAGAAGAGGAGCTTCTTAANN >795

CCACGCGTCCGAAACAGAGTACATGTGATATATAGCCAAAGCTCTCTTCTCTATAAT ATTAGCTCTCACAGCCATTGGGGTCTTCTACCATTCAGAGCTGATAAGCAAAGATATCAGCG TACTGGAACACAGAACAGTGCCTTGCATACATACCTAGGACAATATCTGCCACAAGGTAGGC CTTTTTGCAATGACTATAACGCGTCCTGACCAAGCCTAAAACCAATATGTGTGGTTGATTTGT **ACCCTAGGTGATCTTTGGCTTCCTCAAGTTTTTGCACCACTCAGAATCATTTCATATACCACC** TTTGGCAAACATGCCAGACCTGCAGTAGACTGAAGGAAGCTCTCCCAAGCTCTAAATTGATT **AATTTATTAGTTCCTAGAAGAAAGAGATTACATGTTTATCTTTTTGTTACAGAAGAAACTTTGA** ATAGCAGTTGAAAATTTGGCAGGGTGGACCACCTAACTTGACAGTGTATTATTGTGTCTGTTT AGGTATTTAATAAAATATTAACAGAAATGTAAAACAGTGATTTCTCATAGGGCTACTTATACCT TTGTATTTTGGTTAATGATGATAACACTTGTCAAAGGGCCCTAGGATTAACTTTTTCCCGTAA ACCCCTTATTTTGTGTTTTTAATAAGTTAAAGGGCCATAATTTCTTTT

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>798

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ACCATGTAGCTCTACTTTTCCATATACAGAGTTGTTTCCTAGCTTTCTGCTAATCTAA CTGGATTCCTCTTCCCCATTTCCTCATTTACTAGATTATAATGCACATCACATAATAAAAGCTT AAAAATGGGCTTTCACAGTTACTGTTTTCTTTTTAAATAATTGTGAGAGAGCTTTTGCATCATT TATTATCTAATCATGATTCAAGTGACTAGGCTGTAGCACCCAAGAACCTTGCCTTAAAACAGT TTATTTTACCCAATAATACTACTTTGCCTTCTTACTTAAAAATGTCCCGTGCTTAACCCTTTTG CTCTTTATTTTGATTTAAGCACTTGACCCTAAAGTCCTGCTTCTGTCTTACAGAAGATTGTTGT CATTTAAAAAATAAAACAATCAGTACTAGAACTAGCATAAATAGTAATATCTAACATGATCATT **GGCCTCTGGAAAATTAGTTTTACTCCTTAGGTTTTCTCATCCANN** >800

NNNCTCTATTTTTAACAAGGCTCCCTCAAGATATTAATGTGACAAACTTACATAGCCA GCTGTAAGATATCTTTCAAATGCGCAAGTAACCTAACAGATTTGTGCATGTCAGCCAGTAATT ATAATAAATATGTTAGAGCACCTTTCTTGAGAAACTTCTAAAAGGAAAAAATAAAAGACATAAT

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Table 4

ACTGATTATTCTCCTGCTTAGGGAGAAGCGGAAGAAGGCCCTTGGAACTGTGAGTTT
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CGTGAACTGTATTGGTTTTTGTCAAGCAATCTGTTTGGGGAACTTGAGCAACTGGGGCACTG
CTGGCTAGGGTGAAGTTTATTTAATTTGTTTTTATGACATTCTTCATCTTGGAAATGGGGTTTT
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>802

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>803 >804

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GCCTCTGCTGTCAGATCTATGAAAGGAAAGAACTGTGAACTTGTCCCCTTTTGTTTTCTTTGA CTTAAAACAAAAGAAAATCACTGGAACAAAGTCTTAAAGTAATAACAGAAATGTCAGAAAAGT TGAACATCTTATGGGCACATGCGGTGAGTTACGCTAACTTATAGCATCCACTGAGATTAGCC GCATAGGATTCTTCCCATGTTAGAGCTAAAAGGACCTACTGTCCGCCAGCTGCATTGCAGN >808

TTATATTGGTATAAAACAGGTATATCAAATATTAGTGAAGTGTATGGAGACACGCCAGAATGG ATACAAAGACAAACAGTATTACAACATAGTTTTAATGATTGT

>812

Table 4

TGAAGTGGAGCTGATGAATCTGTTTTTTGTGATACTGCTGCTGCTGCGGGTTTTTAACACATGC
TTCAGGTGGTTCTAAGCTTAGGAAACCTTGCCCAAGGATACCATCCTGTCTCNNNNNN
>814
>815

NNCGCGTTGAGGCGGCTGCAGCAGTTGCGCGCTGGGATTGTTGCGGTGCGCTGGA GCCGAATACAAAATACAGTTAAAATAAAATGTCAACCTCCTGGAGTGATCGGTTACAGAATG CAGCAGATATGCCTGCTAACATGGATAAGCATGCCCTGAAAAAGTATCGTCGAGAAGCCTAT CATCGGGTGTTTGTGAACCGAAGTTTAGCAATGGAAAAGATAAAGTGTTTTGGTTTTGATATG GATTATACCCTTGCTGTACAAGTCCCCAGAGTATGAGTCCCTTGGTTTTGAGCTTACTGT GGAGAGATTAGTTTCTATTGGCTATCCCCAGGAGTTGCTCAGCTTTGCTTATGATTCTACATT CCCTACCAGGGGACTTGTCTTTGACACACTGTATGGAAATCTTTTGAAAGTCGATGCCTATG GAAACCTCTTGGTCTGCACATGGATTTAACTTTATAAGGGGACCAGAAACTAGAGAACAG TATCCAAATAAATTTATCCAGCGAGATGATACTGAAAGATTTTACATTCTGAACACACTATTCA ACCTACCAGAGACCTACCTGTTGGCCTGCCTAGTAGATTTTTTACTAATTGTCCCAGATATA CCAGTTGTGAAACAGGATTTAAAGATGGGGACCTCTTCATGTCCTACCGGAGTATGTTCCAG GATGTAAGAGATGCTGTTGACTGGGTTCATTACAAGGGCTCCCTTAAGGAAAAGACAGTTGA AAATCTTGAGAAGTATGTAGTCAAAGATGGAAAACTGCCTTTGCTTCTGAGCCGGATGAAGG AAGTAGGGAAAGTATTTCTTGCTACCAACAGTGACTATAAATATACAGATAAAATTATGACTTA CCTGTTTGACTTCCCACATGGCCCCAAGCCTGGGAGCTCCCATCGACCATGGCAGTCCTAC TTTGACTTGATCTTGGTGGATGCACGGAAACCACTCTTTTTTGGAGAAGGCACAGTACTGCG TCAGGTGGATACTAAAACTGGCAAGCTGAAAATTGGTACCTACACAGGGCCCCTACAGCATG GTATCGTCTACTCAGGAGGTTCTTCTGATACGATCTGTGACCTGTTGGGAGCCAAGGGAAAA GACATTTTGTATATTGGAGATCACATTTTTGGGGACATTTTAAAATCAAAGAAACGGCAAGGG TGGCGAACTTTTTTGGTGATTCCTGAACTCGCACAGGAGCTACATGTCTGGACTGACAAGAG TTCACTTTTCGAAGAACTTCAGAGCTTGGATATTTTCTTGGCTGAACTCTACAAGCATCTTGA CAGCAGTAGCAATGAGCGTCCAGACATCAGTTCCATCCAGAGACGTATTAAGAAAGTAACTC ATGACATGGACATGTGCTATGGGATGATGGGAAGCCTGTTTCGCAGTGGCTCCCGGCAGAC CCTTTTTGCCAGTCAAGTGATGCGTTATGCTGACCTCTATGCAGCATCTTTCATCAACCTGCT GTATTACCCTTTCAGCTACCTCTTCAGGGCTGCCCATGTCTTGATGCCTCATGAATCAACGG TGGAGCACACACGTAGATATCAATGAGATGGAGTCTCCTCTTGCCACCCGGAACCGCAC ATCAGTGGATTTCAAAGACACTGACTACAAGCGGCACCAGCTGACACGGTCAATTAGTGAGA TTAAACCTCCCAACCTCTTCCCACTGGCCCCCCAGGAAATTACACACTGCCATGACGAAGAT GATGATGAAGAGGAGGAGGAGGAAGAATAAGGAGGAAAACCAAAACCCCAAGCACCC ATTAAACAAGTCCTGGCAGGACTCACAGGAACAAACGAGGTCCCTGTTAGGGTTCTACTCG GGGGAGGGAGGGGCTCCATGAAAGGTACGTCTGAAAAGTTTCTGAAGATTTTATTATCATA GATACTTGTTTTGGTTTTGTGTATCTGTACTCTGCAGATGGTCCAAAATTGTAATGGAGTC TGTATTAGAAGAAAATAAGGGTAAAATCAGGCTGAACTGCATGTATATGGCTCCACTGTGGC TTGTGACACTTTTAAAATCATCCGTATGTCAGTGTATCTGGATACACGAGGAAAAGGAAAGA GTCTCAGAGTGGAACAAGAGTGGGAAGAGGTGATCTGTAATGTTACAAATTGTGCTATTAC TCCAAGGTCCAACTTTTCCAGTGCATTACATGGTATTGTATATCAGTGGAGAAATGTATTATT

TCCATGATCAAATGTAGTCTCTGTTAAGGTCAAGTTTTCTTTTATAAGCCTTTAATTCATCCTC AGTGACTCTGGCAAGGCTGCTTCTCTATCACTGGCTTTGCACAGAAGTATGCTCTACTTGCG AATAGCACAAATGCTTATTTGTTATCCAAAAACAACCTCCTTCTTATCTGTGATAAATCTATAG CTTCTTATACTACAGAACATGCATTAGTGTGGGCTATATAGCTGTGGCTCATGCTACCCAATT CCAGATTTCTTTGTCCTCTAAGAGTTGATTGCTGTATATTAAAATTGAACATCAGAGGATGGG AAGAGGGCTCTGTAAGCCAGAACCTTACTAAAGTAGAGGGCACAATCAGTGTGAATAAATTC ACTTCAGAATCTCAAGTCAAGGCCAGGCACGGCGGCTCACGCCTGTAATCCCAGCACTTTG GGAGGCCGAGACAGGCGGATCACCTGAGGTCGGGAGTTCGAGACCAGCCTTACCAACATG GAGAAACCCCATCTCTACTAAAAATACAAAATTACCTGGGCGTGGTGGTGCATGCCTGTAAT CCCATCATCTCAGGAGGCTGAGGCAGGAGAATTGCTTGAACCCAGGAGGCGGAGGTTG CAGTGAGCCAGGATTGTGCCATTGCACTCCAGCCTGGGCAACAAGAACAAAACTCCATCTC CTGTGTATGTTAGGGTATTAAAACTGTTTCACCAGTACAGTGAAAGTTGTTTCAACATTTTAAA CAAACAGTGGTTATAGACTCTTTCTTTAACCATTGTATATTTTCTTCCATTCTTGTCATTGGTC AATAGGGGAGGTAGATTAGCTGCTCCAGAATTCAATAAAGTGTAATATTTCTAACGGTGAC TTTGACCTATTCTGTAGTACAACTGTAATAGCTATTGGTCTTCAAGTGGGTTTAGATTTGGTG ACATCAGTTTGATATTCTCTTAAAGGAAATAAATATTCAAGAACTGATTATGTTCTAACATGAT TATATTCATGGTGTTACATAGGCCTCAATTTTTTCACAGAAAGATTTTTGGAACAGGACTGTG **AAGTGAGGCTTTTTAAAAAATTATTTTATAAGCAGAGAACACAGCCTGATAACTTAGTCAAGG ATATACTGTCTGACTACTTTGGACTTATATGGCTTCAGATTAAGTCATCCAAGAAACATA** CATACATTCTAAATGGTATATTTGGGAATATATGCCCCTTTAAAAGAATCAGGTCAGAAATG CAATAACAATTAGACTAGACTGTTGCCCGTGTTAGGAGAATGTGTGGTCATCCTAGTTACTAA TTACTCTCACTCAAGATGGAGATGTTGTCCAGTTTAACATAGTCTTAAGTTTTCTTAAACCCAA **ATAATTTATGAGTAGCTTATTACATCTGCAGAGCTACCTTATTATAATAGTACCTGCCCNNNN** >817

>818

>819

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Table 4

TTCACTTTTCGAAGAACTTCAGAGCTTGGATATTTTCTTGGCTGAACTCTACAAGCATCTTGA CAGCAGTAGCAATGAGCGTCCAGACATCAGTTCCATCCAGAGACGTATTAAGAAAGTAACTC ATGACATGGACATGTGCTATGGGATGATGGGAAGCCTGTTTCGCAGTGGCTCCCGGCAGAC CCTTTTTGCCAGTCAAGTGATGCGTTATGCTGACCTCTATGCAGCATCTTTCATCAACCTGCT GTATTACCCTTTCAGCTACCTCTTCAGGGCTGCCCATGTCTTGATGCCTCATGAATCAACGG TGGAGCACACACGTAGATATCAATGAGATGGAGTCTCCTCTTGCCACCCGGAACCGCAC ATCAGTGGATTTCAAAGACACTGACTACAAGCGGCACCAGCTGACACGGTCAATTAGTGAGA TTAAACCTCCCAACCTCTTCCCACTGGCCCCCCAGGAAATTACACACTGCCATGACGAAGAT GATGATGAAGAGGAGGAGGAGGAGGAAGAATAAGGAGGAAAACCAAAACCCCAAGCACCC ATTAAACAAGTCCTGGCAGGACTCACAGGAACAAACGAGGTCCCTGTTAGGGTTCTACTCG GGGGAGGGAGGGGCTCCATGAAAGGTACGTCTGAAAAGTTTCTGAAGATTTTATTATCATA GATACTTGTTTTGGTTTTGTGTATCTGTACTCTCTGCAGATGGTCCAAAATTGTAATGGAGTC TGTATTAGAAGAAAATAAGGGTAAAATCAGGCTGAACTGCATGTATATGGCTCCACTGTGGC TTGTGACACTTTTAAAATCATCCGTATGTCAGTGTATCTGGATACACGAGGAAAAGGAAAGA GTCTCAGAGTGGAACAAGAGTGGGAAGAGGTGATCTGTAATGTTACAAATTGTGCTATTAC TCCAAGGTCCAACTTTTCCAGTGCATTACATGGTATTGTATATCAGTGGAGAAATGTATTATT TCCATGATCAAATGTAGTCTCTGTTAAGGTCAAGTTTTCTTTTATAAGCCTTTAATTCATCCTC **AGTGACTCTGGCAAGGCTGCTTCTCTATCACTGGCTTTGCACAGAAGTATGCTCTACTTGCG AATAGCACAAATGCTTATTTGTTATCCAAAAACAACCTCCTTCTTATCTGTGATAAATCTATAG** AAAGAATTTAGCTGCAAGTGGACAAAGGAACAAGCCCCCAGAAAAGAAAAGGAAGAACTGC CTTCTTATACTACAGAACATGCATTAGTGTGGGCTATATAGCTGTGGCTCATGCTACCCAATT CCAGATTTCTTTGTCCTCTAAGAGTTGATTGCTGTATATTAAAATTGAACATCAGAGGATGGG AAGAGGGCTCTGTAAGCCAGAACCTTACTAAAGTAGAGGGCACAATCAGTGTGAATAAATTC ACTTCAGAATCTCAAGTCAAGGCCAGGCACGGCGGCTCACGCCTGTAATCCCAGCACTTTG GGAGGCCGAGACAGGCGGATCACCTGAGGTCGGGAGTTCGAGACCAGCCTTACCAACATG GAGAAACCCCATCTCTACTAAAAATACAAAATTACCTGGGCGTGGTGGTGCATGCCTGTAAT CCCATCATCTACTCAGGAGGCTGAGGCAGGAGAATTGCTTGAACCCAGGAGGCGGAGGTTG CAGTGAGCCAGGATTGTGCCATTGCACTCCAGCCTGGGCAACAAGAACAAAACTCCATCTC CTGTGTATGTTAGGGTATTAAAACTGTTTCACCAGTACAGTGAAAGTTGTTTCAACATTTTAAA CAAACAGTGGTTATAGACTCTTTCTTTAACCATTGTATATTTTCTTCCATTCTTGTCATTGGTC AATAGGGGAGGGTAGATTAGCTGCTCCAGAATTCAATAAAGTGTAATATTTCTAACGGTGAC TTTGACCTATTCTGTAGTACAACTGTAATAGCTATTGGTCTTCAAGTGGGTTTAGATTTGGTG ACATCAGTTTGATATTCTCTTAAAGGAAATAAATATTCAAGAACTGATTATGTTCTAACATGAT TATATTCATGGTGTTACATAGGCCTCAATTTTTTCACAGAAAGATTTTTGGAACAGGACTGTG AAGTGAGGCTTTTTAAAAAATTATTTTATAAGCAGAGAACACAGCCTGATAACTTAGTCAAGG ATATACTGTCTGTCTCACTACTTTGGACTTATATGGCTTCAGATTAAGTCATCCAAGAAACATA CATACATTCTAAATGGTATATATTGGGAATATATGCCCCTTTAAAAGAATCAGGTCAGAAATG CAATAACAATTAGACTAGACTGTTGCCCGTGTTAGGAGAATGTGTGGTCATCCTAGTTACTAA TTACTCTCACTCAAGATGGAGATGTTGTCCAGTTTAACATAGTCTTAAGTTTTCTTAAACCCAA ATAATTTATGAGTAGCTTATTACATCTGCAGAGCTACCTTATTATAATAGTACCTGCCCNNNN >820

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>821

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CACACAGTATGTGGCATATTCAGAATTGGTTGTGAGTTTCCAGTAGAAAGCACTGAGAATAT
CCATAGGGCAAAATGGAATACTAATAATCCTCATTTGCCTTTGCCTTTGTACTGGAAACCAGA
CCTTACTTAAGCCCACCAAAGGCAAGGTTTGGGCCTGCCACAGCGGATTTCAAAAAGACAAA
GCAATGCAAGCCACGTGTTCAAAATGCCCTAAGTGGCTATTCAGGTAATATATAAAAGTAAG

Table 4

ACCAGGCTAATTAGTATACAATGGGGTAAACCAGAGAGCAGAAAGCCCTTCTTTAAAATGAG CCTACCACTGCTTGGCCTCAGTGTGAATTTAGACCCCATCTTCTGATATTTCAGGAGAAAGTA AAAATCTAGATTTTTATCTAAAATCTTTTTAATTTTTAAACAGTCACCTGATTTTAACGAAATAC TATGTGTGCACAATGGAACTGTCTACGGGAATGATCTAGTCCAGAGGATACCAGGTTCCTCA CAATGTCTTATAAAGTTGTTTAACCCATAGTACCTGCCCGGGCGGCCGCTGCCACCGCGGT GGA >822

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GGACAGTTCTCATGCCCAGAAGCAAAACCTTCTTTATTGTGCCTGTCCTCCCTTGACTGTCAT
GCATATAATCAGCATCTTTCCCACTAAGTGAAGGGCCCAGACTCGAGCACAGGAGCACAGC
ACCCCTTAAACTCACGAGGGGCTGCATTCACACCATCAGCAGGAGATTACACTTGTGTCAT
TTG
>823

AACACATTTTGATATATCAAGAAAATAAATGGAAATGGGGGTGATAATTTATATTTGT AATTTACAAATCAAACATCTATCATACACTTACTATGTACGCGGGGAGAGAAAGAGGCAACTA CATTGCCTGGAGGAAGCCTAAGGAACCCAGGCATCCAGCTGCCCACGCCTGAGTCCAAGAT TCTTCCCAGGAACACAAACGTAGGAGACCCACGCTCCTGGAAGCACCAGCCTTTATCTCTTC ACCTTCAAGTCCCCTTTCTCAAGAATCCTCTGTTCTTTGCCCTCTAAAGTCTTGGTACATCTA GGACCCAGGCATCTTGCTTTCCAGCCACAAAGAGACAGATGAAGATGCAGAAAGGAAATGT TCTCCTTATGTTTGGTCTACTATTGCATTTAGAAGCTGCAACAAATTCCAATGAGACTAGCAC CTCTGCCAACACTGGATCCAGTGTGATCTCCAGTGGAGCCAGCACAGCCAACTCTGGG TCCAGTGTGACCTCCAGTGGGGTCAGCACCACCATCTCAGGGTCCAGCGTGACCTCCA ATGGGGTCAGCATAGTCACCAACTCTGAGTTCCATACAACCTCCAGTGGGATCAGCACAGC CACCAACTCTGAGTTCAGCACAGCGTCCAGTGGGATCAGCATAGCCACCAACTCTGAGTCC AGCACAACCTCCAGTGGGGCCAGCACAGCCACCAACTCTGAGTCCAGCACACCCTCCAGTG GGGCCAGCACAGTCACCAACTCTGACTCCAGCACAACCTCCAGTGGGGCTAGCACAGCCAC CAACTCTGACTCCAGCACAACCTGCAGTGAGGCCAGCACAGCCACCCAACTCTGAGTCCAGC ACGACCTCCAGTGGGGCCGGCACAGCCACCCAACTCTGAGTCCAGCACAGTGTCCAGTGGG **ATCAGCACAGTCACCAATTCTGAGTCCAGCACCCCTCCAGTGGGGCCAACACACCCCCACCA ACTCTGAGTCCAGTACGACCTCCAGTGGGGCCAACACGCCACCAACTCTGACTCCAGCAC AACCTCCAGTGGGGCCAGCACACCCACCACTCTGAGTCCAGCACGACCTCCAGTGGGGC** CAGCACAGCCACCAACTCTGAGTCCAGCACAACCTCCAGTGGGGCCAGCACAGCCAAC **TCTGGGTCCAGCACGACCTCCAGTGGGACCAGCACCAACTCTGAGTCCAGCACAG** TGTCCAGTGGGCCAGCACCACCACCTCTGAGTCCAGCACGACCTCCAGTGGGGCCA GCACAGCCACCAACTCTGAGTCCAGCACAGTGTCCAGTGGGGCCAGCACTGCCACCAATTC TGAGTCCAGCACACCTCCAGTGGGGCCAACACACCCCAACTCTGGGTCCAGTGTGACC TCTGCAGGCTCTGGAACAGCAGCTCTGACTGGAATGCACACACCTTCCCATAGTGCATCTAC TGCAGTGAGTGAGGCGAAGCCTGGTGGGTCCCTGGTGCCGTGGGAAATCTTCCTCATCACC **CTGGTCTCN** >824

GTCCGGTTGAATAGATTAGTTTTTCTCAGTAACTTACTATCCAGCAGACTGGCTTTCC

Table 4

TGAGACTTGAGGTTGTGGCTTATACTGGAATGAGACCACTGTACGTGTAGGTGGTTCAGATC CTGCGTAATGGCAGCATGAGGACTTAAAAGGTGGTTTTCATTTTGAAGATGGCTATGTAGCT TGTAAGGTGTATCACAGCAGTACCTCTCATGGCTTTTTGGTTCCAGCAGTGAGGGCATTGGT GAGATCAATGGTAAACTGTGCAAGCTTTCTTTTTATCATTAGGAAATGTGAAACGTTGGACAA ATTTTGAGTTTTAACAAGGACAAAAAGTTGAAAGAAAAGGCACAGTTAACAAAAAAGGGTGG CTAGATTTATCTTGGGTGATGGAGGAAATGAGAGGGAATGCTCTTGAAAGGTGGTCTGTGG ATCTGTCTGAATAGAAAGAGCACAGTAAGTATGCATTGCCGGAGAAAACGTCCTTGAAGCTG TCCCTAAAAACTAACTGGGCCCATGTAGATGGGGCTGCAACCAGAGCTGAATAACATGTTAG GCTCACACATGCATCAGCACTGCACACTGGAATCATTGCTCTTCCTGGACTTTGTAGAAATC AGTCTCAAGTGCTTCAAGAGTCTGGCTCCTGCTACTTTTATCTGTCAGGTAGCACATAAGGTT TGCAGGGTTTATATTTTGTATAGAATCACAGTTGTGGAGAAAAAGTAATAATTTCTCAATGAAT TTTAAAAATGGGCCTATTTTCTATCCCCGTGGTTCATCTGATATAATTAGTGTTCCCTGTGAAT TCCCCCCTCTATGGGAAGGATGCCTTTACTCTTTATCAGTAATAAATTATGACTGTTTTCATA TTGCCTTAGGGTTATTTCCCTGTGTAAACCATTGTCTTTTGTTTTGGTTTTCTTTAGCATTATG AAGCTTTGGTATTGTACAAGGTCAGTAGTAAGATGCTCACTAGTCTCAGGGCTTGTGTAATAT TCTGGGAGGTCATTTAAATGCCAGAAATGGTCAAGCAATTATACACAGTATTTATGACTCTGT <u>ŦĊAŢŢŢAAAŢĄAŢŢĊŢAAAAĠĠĠŢĊŢŢŢĊĊAĠĊŢĊŢĠĊĊŔĠĠŢĊĠĊŢĠĠŎŢĠĠŢŢĠŢ</u> TTTCTACAGAATTAGATGTTAGTAGTACAGTACTGCATATTCAGGGAAAAAGTGTGAGGAATT TACAGTTTAGCATATATAAACAAACATGATAGGATTCCTTAAGATGTTACCACCCAGGGGGCC ACAAGCCAGCCTGCTGTCTCAGGAAGCTGTAGAAGGAGTGTTTGTCAATTTCTTGTCACTGG TTTGCTGACTTACTGAGGATTAATTGTTGCCTTACAATGTTACTGAAATAAACTGTTTAATATA **AAAAAAAAAAAAAGTCGACGCGGCCGCGAATTTAGTAGTAGGCGGCCGCTCTAGAGG ATCCAAGCTTACGTACGCGTGCATGCGACGTCATAGCTCTTCTATAGTGTCACCTAAANNNN** N >826

TTTTATTCAAGTGACTTACAATGGCCCTAGGAAACAAGTTCTGTTATTATCCCCCATTTTAAAA TGATGAAAATGGACAAAGCAAAGCAAGCAACTTAACCAATACCCCATGGCCTCACAGCCTT CTACATTTTAAAAAATGTATAACAGGAATCTAAGGAAGGGGTCTTACTTCTCTGATTCAGGGA GTGCGAAATCCCTTAAACTCATATCAGACCTGTGATGAACAAACTCACACTAAGTTTTAAAAA CTGCTTAATTTACTTTATCATGACTAGTAATATATAAGAATTTTGTATATACTTTATTAAAAAATA **ACTTTGGAAAACTATTTTTGCCTGATCAGCAATAAAACTACTGATAAGATAAGCTGGTTATCA** AATAATTCCCTAGTGTTAATCTGGCAAATAATTGTTATAACCCAATCTTGTGAATTGAAGACAG GCACATTATAGATAATCAAAAATATTAGAAACACATTTAAAATGTCCATATGTTTAGTATAAAT AGAAAATTCATTGACTAAAATAAGTCATGAAACATGGACTGGAATTTTGTGAGCTATTAAGTTT CATTTTGTTTTACTGTTTTAAAATTTAAATAGTTTGGCTCATTTCTACATTTGTTAAAATTGTAA TCTTAAAATATTAAAAAAATAACTTTACAAACACACAGATATGACTAGCCATTTTATCTAAGTTA TAAAATAGTTACCCCAGGGAGCCTTCAAGATCCCTATATTTTAAAGCTTATTTCAAAAACCAT CACTACTTCACATTTTTAAACTGCATCCTTGCATTACAGAACTGTAAATGTGTTGTCATACAGT AAATATCCACATCCCAATTCTAATTACACCATTCTTGTTGTTAACACAGAGCACTGCTTCTAAT AATGAAGCAATCACCAAGATATTTGAAACAACAAAGTTAACATTACAATGATTTCAAGAAAAA CTAAGAATATATACACTTACATAAAACAAAAAAAAGGAATAATTCACTTTATGAGAGAAGAAAA **ACCAAAAACTTGCAGTAGTAAAAATACATTCTGAAAGTATTTTAAAACTTAAATTTCACTGGCA** AAAGTAGGTAACAGGGGAGACACAGATTCAGTGCCCCGCGTCTATACAAAGCACCTTTTGG CCACATTCCTGTCCTGGAGACCAGCCAATGTCAACTGATCTATGAATCTGTTATTGCTTGTGA GT >830

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>833

>836

NNNNNNATTGTAAAAACATGCCAAAGCANAGCAGAGGCTTTTATTGCAGATAAGGC TGTGTTTTCGCTCAGAGACCAATTGTGTAGATGCCTAGGACATAAATGGTGGGGATCGCTAT TGAAATTAAATTATTGTAAGTAGGACTCAGTTCTGTAACACATCTAATGATATGCTGCTC **AGTTCTGTAACACATCTAATGGTATGTTTTGATACAGATGCATCCAAGAAGTCAGATTCAAAT** CCGCTGACTGAAATACTTAAGTGTCCTACTAAAGTGGTCTTACTAAGGGTAAGAAGCTGAGG **AAAGCAAGCTCTCTGCCTGCCTAGATTTGTGTGTGTCACCCCAGCCTACCCTGCTCCCCCTA** AAAGTTAAAACTGAAAATGATACTTTTGCAAATAATACTTTGGGCAGATCCCACGTAAGGCTG ATTTTAGATTTTTCACTAATGTGTAAGTCTCTTTGCTAAGTACAGTGTTTAAGACTGCAGTGAG TAATTAAATATTTGAAATTGCTAGAGCTTCAGATAGTTTATACATTTTGGTGCTTGCATAGATG CTTTTGTAACTCTTTACAGGCTTAATATATGTTTTAGTGTTTTAAAGAAATACTAACTTTTGGGT GCTTTGGGGATGAAATTTTTCATTATGTCGTTTGGGATTGAGAACATTTACCATCACTAAGTC ATATTTATATACCTCTGCTAGGTGTTTGTAAGTTATACTTGGTACTTGAATTTGTTTATTTTTGT GTTTAAAGAACATGGTTGGTGCGGGAGAGGTGGATGAAGACTTGGAAGTTGAAACCAAGGA AGAATGTGAAAAATATGGCAAAGTTGGACAATGTGTGATATTTGAAGTAAGAGCGTTTTCTTT TGATGTTTATAACACAAGTTGTAATTGGCACATTACAAAACATTTTCTACAAACAGGACAGGG TATGCTATAAGTAACATTCTTACTGCAGAAGATGACAGGCGTTGGTTATTTGTACTTCTCTTG CTCAATTATTACAGTTTTAAACATAAAGACAATGATTTCAAGTTTTATTTGATGAAGAAACAGG **AATGCTTCATGATTGAGGATCAGTATGATGACTGAAGACCTTGATTCTAGCGTGCTCAGTAG** TTTAGTTCCTTAGACATGCCTTTGGTTTCAGTCATTTGGTGAGTATTTAGTGCCTCTCACATG CACTGCACTGTGCGGAGAGCACTTGGATTACAGGAAGCATGCTCTGTACTCTCAGTGGTGT **GTTCAGTTGAAGAACACATAAAATAACTGAAAGATATTCAGTTACTAGACTAGGTAGTATTG ACTAAGTTCAGGAGTTGAGAAAAGGATTAGATCAGTGAAAAAAATAGACTGCCTTGTGAGCAA** TAGCAGATATGGGCTGCGCTTTGAAACGAACAGGTGGGATTTGCAGGGAAGGGTATTCTGA CTGTTGGGGATTAGCAGAAGTGCTTAGGTGGGTGGAATTACAGAGGGCTAGGAAAGCTAGA CAGACTAGTCAAAATGAGACCTGATGTGAAAGGCCACTAGGGCACCAGCCTTTTTAATCTGA **AAGCTCTGCTTCCTCTTTATCCTGTTGCTGGTTGTTGACCACATAATTATTTGTTTAC** GTCATCAGCTGGCACAGGGCCTTTATGAGGTCAGAGACTGCCTAGCCCTGTGTTCCTGGCA

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Table 4

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>837

>838

>839

>841

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CCACCTGTTGATTTCCTAGGCATCTTCTTGCTCAGGGTAGTAGATGTTTGGTGGACCTAGAAA
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GCTGTGCTTGGGGAAAAATAAACTGTGGATTAATTCTGACTCATTGTTTTGGAANNN
>843

Table 4

GAAAAGAATATGAAGGAGAAGGGACCAAGAAGGCAGATACATTGCCCCTGATAAAGAAGTC ATTTTTCTCTCACCTTTACATAAATATCAGCCACTAAAAATCTAGGAGCACAAATAATGAAAGC GAACCCTGTTCGCTCTGNNNNNNNN >844

ACCAGGAAATTGGTTTGATTGCCATAGGCTAACCTTGGACCAATCACTGTGGCCAAA TACATGAGGATCCTTATTGGCTCCTTCTACTAGCAACAGATGGTTTAGAGAACAGTGTATCAC AGAGAAATGGGGATCACTATTATAGGCAGATTGAATAATAAATGTTCACTCTACTACTCAATA AATATTTGTTGAACAAATCAAAGCTGATCCCTTTTTTCAAAATTTTTAATGTGACTCTTAGGGG ATGGTGGATCCAGGAGAGAAGATTAGTGCCACACTGAAAAGAGAATTTGGTGAGGAAGCTC TCAACTCCTTACAGAAAACCAGTGCTGAGAAGAGAGAAAATAGAGGAAAAGTTGCACAAACTC TTCAACCAAGACCACCTAGTGATATATAAGGGATATGTTGATGATCCTCGAAACACTGATAAT GCCTGGATGGAAACAGAAGCTGGGAACTACCATGACGAAACAGGTGAGATAATGGATAATC TTATGCTAGAAGCTGGAGATGCACACTGGAGCGAGGACTCTGAAGCTGACTGCCATGCGTT GTAGCTGATGGTCTCCGTGTAAGCCAAAGGCCCACAGAGGAGCATATACTGAAAAGAAGGC AGTATCACAGAATTTATACTATAAAAAGGGCAGGGTAGGCCACTTGGCCTATTTACTTTCAAA ACAATTTGCATTTAGAGTGTTTCGCATCAGAATAACATGAGTAAGATGAACTGGAACACAAAA GGCTTAAATTAAACTTAAACAACTAATGCTCTTTGAAGAATCATAATCAGAATAAAGATAAATT

>847

>848

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Table 4

TCCTTTTGCAGAGTTAACCAGCCCATAGCATCTTTCACCTTTCCCTGAGCCTCCTCCAGTC CCAGGGGCATCTTTGGAATACTGCAGAAACTGTGCCACATAGGTCATGATGGACTTTTCATC AGGATCAACACATCCACATCTTCTGGTTCCAGCAATCTGGGGGATTTTTAATTCTTGTTCTGC AATTCTGAAGGCCTCTCTCAGATTGTCTTTGTTGGATCTATGCTTCACACTCTTCATGTCAATT AGGTCTGGTCGCAAGGCATGAATGATGGCCAAAAAAGCCATCCCATTTCTCCAACTTGACTT AAAATCGGTCACATTGACAGACTCATAGGTGGCGCATTGTTCCTGAGCCCACAAAAGAAGG GCCTTTCTTGCAGACATTTGCCATCTTGCTTGCACTTTAGAGCATTTCTTAGCTGGAGGACTT GAGGCAGGAGATGAGTCAACCACACTCACATCATCAGGGAAGGCTGATTGTAATTGCAAG AAAGAGTCTGGGCAAGCTTCTCAATATGAAAGTGCAGGATAATTGTCCAAATTAGGCCAAGG TTCTTAGGAATGTCAAGGCATGTTCTATATTGATTCTACACTGGAAGGTATTAGATCCTTTATC CCGAGGCAACTGTTGCCCAGAAAGTACTTCTAGCAGATCCAGGAGGACATGCCCCTTTTTAA TGTCTGTGAATAGGTCGGATATAACTGAGGGAGAAGTGTGCCTGGCCAACTGTGAGTTTATC CAGCACGTGAAGGCTTTCTTCTGGGTGTCTTCCTGTTCAGCTTGCAATGAAATATGGAGATC GTCGATGCCCCAGGAACCCTGTTCATCTTCGGTGGGAAGCTCAGGACTAGATGCCATTCTTT GACTCAATGGAGATTATATCATGTCCATCTCAGTTGAAGAAGTGAACGTCCGCCCGGCCGAG GGGCAAGGGCGGGCCGGGCCCCGAGGTCGCCCCGCTTGCCTGGCTCTCTGG ATCGCGCCTTTTGCTCGCTCTCCCTCTCGCTTTTTCAGGTCCGGCCGAAGGCTCTGGGCGC **AGETGAGETEGTGEE**

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CACTACCCCAGGCTTGTGGAAGGTTCTGCATCAGTGTGGCATTGTTGCGATAGCCCTCAGTT
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GAAGAN
>853

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>855
>856

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>857

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>861

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>862

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Table 4

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>865

>866

>867

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>868

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Table 4

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Table 4

>877 >878

Table 4

>884

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Table 4

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>897 >898 >899

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>900 >901

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Table 4

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854 Table 4

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>912

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TGTAAACCCTACAATAATCATTACAAAATAAAGAGATATAACAGTAAGN
>916

>920

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AAAATGCTT

>921

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Table 4

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NNNNNNNNNNNNNNNNNNNNNNNNNNNGGAATAATTAAATAAGAGTAAACATTTTAAA **ACATATAAAAATAACTTTAAAATATAGTAACACTTTACAAAAATATGTATCTAATTAAAAATACAT** ACATCTATTCTTTGAATAAAGCTTAAAATTTGTTTATAATTTTCAAACTAAGAAAAAGAAGTAGT GAATAATAGCTCCATCCAATTTATAATTGTCTTAAAGAGAATGATTATGTATCATTTCTTGCTT GTCTTTCTAATACCCAGTCAATCACCTGTACAGCATTGTTGTTTGCTGTTTTCTTCATTTCTT CAAATAGACCCCTTGAAGTTTTAAGATCCTTTAGATAGAACTTAGAGAGTTTCAAAGAGACGCT. GGCTGCATGCAGTGAAACATTCATGAGTCTCGGTAATACTGTGTTTCTTCAGGGTTTCAGTA ACTACTTCTTTCAGTATCCGTGTGTTTTCTGTGATCTTGATTTCCTTAATTTGCCTTGATGTTT TTGATTCATGCATACTTTTTTGACCTGAACTGGTCTTTGTAGCAAGTTTTGGAGTTTCACAGC TAGGAATTGGAACCAATGGACAAGTCACTGGTAAGGACCGCTCTGTTTGTGGCTTTCTGGAT TCAGATTTCACAAGTCTTTTTCTGGGATAAAGGCAATTCAGATCTTTAGATCTCCGTTTCAATC GGGATACTTCAGTTCGAAGTTCATTTTGTAAAACTTCTCCGTCAGGGACACTTCCAGGATCT GACGAAACTACAGGAGATGGAAGAGGGCTCAACACAGTAGGTACTGGAAAACTTTCTCTGG TGCAGGTAGTTTGAGTTTCATAACGAATAAGACGAGACTGAAGTTCANAAAATCCTCCATCTC TTTCCAAAGCTTTTCGGTCATCCAAGCAATATTCAATTCCATGATAATGACATACTGAGGCTT TCTCAAAAGGTAAGACCTGAAGTTTCCCAGGACTAAGTTCTGGTGTCAAAACAAAAGTCTTTT CCCCTTTTGAATCGGTAAAGGTTGAAGATCTCCAANNNN

GTGCTATAATTTCTTTTATTGAGAAATGGAAGCATCGTTGCTGGGTATGAAGTTGTTGGCTCC AGCAGTGCATCTGAACTGCTGTCAGCCATTGAACATGTTGCCGAGAAGGCTAAGACAGCCC TTCACAAGCTGTTTCCATTAGAAGACGGCTCTTTCAGAGTGTTCGGAAAAGCCCAGTGTAAT GACATTGTCTTTGGATTTGGGTCCAAGGATGATGAATATACCCTGCCCTGCAGCAGTGGCTA CAGGGGAAACATCACAGCCAAGTGTGAGTCCTCTGGGTGGCAGGTCATCAGGGAGACTTGT GTGCTCTCTCTGCTTGAAGAACTGAACAAGAATTTCAGTATGATTGTAGGCAATGCCACTGA GGCAGCTGTGTCATCCTTCGTGCAAAATCTTTCTGTCATCATTCGGCAAAACCCCATCACCA CAGTGGGAATCTGGCTTCGGTGGTGTCGATTCTGAGCAATATTTCATCTCTGTCACTGGCCA GCCATTTCAGGGTGTCCAATTCAACAATGGAGGATGTCATCAGTATAGCTGACAATATCCTTA **ATTCAGCCTCAGTAACCAACTGGACAGTCTTACTGCGGGAAGAAAGTATGCCAGCTCACG** GTTACTAGAGACATTAGAAAACATCAGCACTCTGGTGCCTCCGACAGCTCTTCCTCTGAATTT TTCTCGGAAATTCATTGACTGGAAAGGGATTCCAGTGAACAAAAGCCAACTCAAAAGGGGTT ACAGCTATCAGATTAAAATGTGTCCCCAAAATACATCTATTCCCATCAGAGGCCGTGTGTTAA TTGGGTCAGACCAATTCCAGAGATCCCTTCCAGAAACTATTATCAGCATGGCCTCGTTGACT CTGGGGAACATTCTACCCGTTTCCAAAAATGGAAATGCTCAGGTCAATGGACCTGTGATATC CACGGTTATTCAAAACTATTCCATAAATGAAGTTTTCCTATTTTTTCCAAGATAGAGTCAAAC CTGAGCCAGCCTCATTGTGTGTTTTTGGGATTTCAGTCATTTGCAGTGGAACGATGCAGGCTG CCACCTAGTGAATGAAACTCAAGACATCGTGACGTGCCAATGTACTCACTTGACCTCCTTCT CCATATTGATGTCACCTTTTGTCCCCTCTACAATCTTCCCCGTTGTAAAATGGATCACCTATG TGGGACTGGGTATCTCCATTGGAAGTCTCATTTTATGCCTGATCATCGAGGCTTTGTTTTGGA **AGCAGATTAAAAAAAGCCAAACCTCTCACACACGTCGTATTTGCATGGTGAACATAGCCCTG** TCCCTCTTGATTGTGATGTCTGGTCTATGTGGTGCCACAGTGGACACCACGGTGAACCTTCT **GGGAGTCTGCACAGCTGCTGTTTCTTTACACACTTCTTCTACTCTCTTGGTCTTCTGGATG** GTCTGCTGGGTCCCTGGGGTACGGATCATCTCGGTTCATCCATGGCAGCATTGAGAGGGGG GGGTTGCGGGAGGGGCCCCTTTTTGGTTCCTGTGGTCGCCCTGCACTCAAGAGGGTGGG TGCTGCCGGGACCCCGTTTGCCCCGGCGGGGTCGGGGCGCCACCAGGGCGGGGAGGA GGCCCGGCGCTCCTGCGTGGGAGGTGGAACNNNNNN >928

ACTTAAGCAATAAATCTGAGCAATTATCAGGTTATTTTATTGCATTTCTAATGAGTTCT
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>930

>931

Table 4

>933

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TGAAAGGACACACACCAGTATCAGAACTAAGTCACCCATGGGGAGGACAGAAGGAAATAG
GATGGAAAGGGGTTGAGGGACTTCAACTGTATTTGTGATGTTTTAGTTCTTTAAAACAAAAAT
CTAAATGACATTTGAAATATGAAACAAACGCAGAAAACATCAAAATGTCAACAATACTTAAAC
CTGAGTGTTGGGTGCCTGAATGTTATATTGGTCTCTG
>934

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TTAGTTCTAAAAACAATCATATTATTTACAAAGCTGCAGTTATAGAACACAATTCTGATTTCTG
CCTCACCCCCACGGTTAATACTGTAAAACATTTCCTACGTTTCATCTGATAGTGTTATTAAAAA
TAGCTGTTATTTTTAATAGCTATACTAAAACATAAAAATGTTTAGGCCAGGCGTG
>935

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GTCGACCCACGCGTCCGAAGAGGTCCTATGACAGGATCAAGGTAAGTATGTAGATA. ATTCCAGCATCTAATTTAGTTAAGAGACTTTAAAAAGGGATTATATATTGGAGAAAAAGGCAG AAATTAAAAGTGTATTTTCAGTCTTAATATCTCACATAAATGACCTTAGAATTGGCTATGTTAG TAGTTAGTTTATGTGGTACATGTTAAACACCAGTAGAGAAACAACTATGGTTGTGATTAAATC ACTTGACTTTCCTGCCAGAGCTAGAATCTTAACTCCTTTAAAAGACGACTCTGGGAAATCCAG TGTTTGTATGTAAAAATAAAAGGTAAGTTAATTCTAGATTGAGGGGCAGAGGCTATTTCTTAA TCTCCAATCTCCTTGGGAAGGGAAAGTATTAGGAGGCAGTAATGGAGTAGAAAGGTGGGGA TGGCAAATAAGAGAAAGATTTAATGTAACAAAACTGTTTTGTCCCTCTTCTTAAGTAAATAATT **ATTGGAATAATTAGTGTAACATCACATAGTAATGTGTATTTTGTCTTGACTAAGTTGTGTAAAG ACTTACAGCATATGTTATGAAGCTGGTTTGAAAATTGGTTTTAGATATATCTGCAAGTTTACTA** CTTTGACTGTAAAAAAAAAAATGAAAAAGTAGTTGACATCTGTCCTCAGAAGAAGTTTGCAGG TTGCATATTTGTGTGTAAATACACAGGCTAAAAGGTAATTTATGTTCCTTGGGAATTGAAATG GTCAGTGGCCCGTTACAGAAACTTATCAGTCATATATCAGCACCAGTTCATTCTTTTGCACCT TAGGGACCATCTGTCCCCTGAGGTGACCTGAGAAACAACCAGTTGCCCACAGACTGTTATTT CTTCAAGTGAGCCAGGATTTGATTTCACTGCCTTATATTCTATTTTTAGTGTACAGTGCTTTGA TTTTTTGGAAAAACTTAAATTTTAAACATATTTGAAAAATGTTATAAGACTTGGACATTAAGTCT GAGCAGTCTGCCATCATGTGGATATAAATGGACTATGTAAAGTGACATGGTGCTTACTCTCT ACCTAATAATAGCCTCCCTCTGTTCCAAACAAGATAACCAACAGGTATATTTAATTTACCAG TTAATATGTTTTGGATAATTGGCTGCCTTGAAATGCTATATGTTTTATAGTACATCATAGCTTT AGTTTTCTTCATAAGGAAATTACAGTTACATCCTAATCGATTATTAAACTATCACTGTGTCTAA GAATGGTGGAAGAAGATAGGGAATAGGTAGGGAAGTCATTATAAATATATTTTCACTGGCCA

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CTTGGTGAACTAGACCTTTTATCATTAGGAAACTGTCCATATAACCA
>944

>945

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NNNNCCCCCCTCGGAAGTCTTCTAGNATTAATTAACGCGGGATCCTGAAGTTGA **ACCCATGTGGTCGAATCCCAGGACACGTTGAATTACAAGCTCCAAGTTTTTCCGCTGCAGCG** TATCCAAGTGTGCTTGGAAAGAAGAACAAAATTAAACATGCTATTTAGAGCTTTCAGGGCTAA CTAGATTTTGATGTTGTCATTGTAGCAAATAGTTCTAGAGTGTGGAAGAAGTTGAAAATGTTT TTATGATACAGAGATTTTTATTGTACTGCATATTTAATGAATTATTTTATAAATTGCTGTTGTGA AGCATTTGTGAATGACCTGCCTCCTAGCTTTCAATGCTATTGCCCAGGCTGACTTTTATTGCA **ACTGTTTTATGATACAGTTTTGCATTGTATGTGTTTACTTTTTAAAGAAGCATTTCCTGGGAGG** TTTCTTTTTCTGGTTATGAAAATAATATATGCTTATGGGGAAAAATTGGAAAAATAGAAACAAGT ATCTAGAAGAAAAATCACTCATAATTCCAGCACCCTGTTAATACTTTGTCTTTTCTTACAGTTT CTAATATGTGCATGCATAGTATATCAATGTGGTTTTACAAAGAGTGTGCAAATTATGATTCTCT TTTTTACATCATTCATGCCATTCTGCATTTTCCACTTAATACTATACTATTGGTACTTTACCAAT CCCTTAAGTATTCTCCTACATAGCATTTAAAGGTGAAATCTACCACCTCCTATTTTTAATATTT ATGTTGTTTTGACTTTTCAGTATAAATCATGTTTATATGTAAAGGTTTTTATCTCCGGTTAT TACTGTAGAATAGATTTCTGGGAAGTATAAGAACAGGAGACATAAATATTTTTAGGTCATTGA TACATAATTTGAAAATGACTCCTAGAAAGATTTTAACAATTTGTGTTCTACCAACGGTGTTTGA GGGTGTCTTTTTCTCATTGTCTCACCAGTAAATGACAATTGTAATTTGTTTATTTGCAAGGCAA AAAAAAAAAAAATTGCAATTTGATATTTAAAGAGATTAAACTTTTTCTCAGATTTTTATTTGGT AATTTGTATTTCTTTTTAGTGAAGCTCTTGCTTTTACCCTGGCTACTACCTATGATTGTGTTAT **GTCCTGGAGGAGAGGGAACTTGGCTGAGGGGGACNNNNN**

Table 4

>949

ACTTGGTAGGTTGATCTCTTTCATTCTCATGGTTTAATTACCATCTATTCACTGATTAC
TCCCAAAACTGTATCTATAGTCCAAGACTGTTTCTAAAAGGTCTGCACCCACATATGCAAATA
AATACCAGATATCTCTCTTGGTTATATTGCACATA
>951

ACTCTTAGGAAAGAGTAATGGGGTTGAGGATGGTTAATTTAGCCCATCCTAACTTCT GTGAGATTTTTTTCAGAATATTTTGGATGGTTCTCTCACTTTTGTTATTAAGCATTTGGGAAGA AGATTCTGCAGCCTACTCAGGTGAGCCAATCTCATGGCATTGAACAGAGAAGATATGTTTTC ACGTCTCTAACCAGTGTTTTTCATAGTGTAAGTCAGGCCTTTCTCCTTTGATCTAAGTGGAAC CAAGAGGTTAGATACTCCCTTTTCTTTAGTTATATAATGGGCTTCATGTAAC >952

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GATTTTTTTTTACAAAAGTTAACTTAAAATGCATTATCTAGAATAATGTTATAAATCAACGTATA
GAGACGTTAGTGAATAGTTCCCTTCATTAGGATGTTGAAGGAATATGGTTTCAATATTCAACA
AATGTCGTGATGCCTATAAATTTTTCTACAAACAAGAGTATGN
>957

ACTTCAGGAGATACATTCTGCTAGTTTGGGGTGGTGTTCTATAAATGTCAATTTAA
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CTGTTCTAGCTCCATAAATTTTTGGAGCTGTTAGGTGCATATACGTTTAGGATTATTTTGTCTT
CTTGGTGAACTAGACCTTTTATCATTAGGAAACTGTCCATATAACCA

ACTCCATAATATATCTTTAAATGGGCAACTTCTAAATATTGATACAACCATTAATAA
TAATGCTTATAGGGTAAAAGAAAATTTTTGAAGCACTGAATTCAGTAACCTGGGTCATGGTCC

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Table 4

AATTITGCTCACTACTTCATATCTTTTATGTAGATTATTCCTATAAACATGTTCCCTAAATTCCA CATCAGTTTGTAAAGTCAATGGATTAAATTATTCAAATGTAGCTATITAACGGTCAGTAACAAT GCCTAGAAACCTATTTATTCATCTGTAATATTAAAAAAGCTGAATTTGATGATCTTGAAAAAATCC TTTCCAGATTTACAACNNNNN

>959

>960

CCGGGCAGGTACACTGCATAAAGCCAGAGTTAAAACTTCACTGCCAGCCTCTGAAC AGAAGGCTGTTCTATCCACACTATCACAAGACCTGGTGGAGTTGAGGCAACTGCTGAATTAC CATACAGGAAGATGAATTCAAGAAAATTCCCATGCAAGATAGGCTCTTAAAAAATAATTT ACACAAGAAAATCAGCACTGTAAAGGTAATTGATAAGCCCAATAGAAGGGAAAACCTATACAA AGAAATAGAAATAACTAAGCAATCTGAAATGGACTTTAAATAATGATGTTTACAATTCTCTAAG AGGAAAAGGAGCATTAGCATCAGTGAAACAAAAGTAGGGCTATAGAAAAAACCAATACTTATG AAAAAACCAATTGGAAATTTTTAGATGGAAAAACGTGAAATAAAAAAATTCAACACATGGTCTA AAGAATAAACTGCACACAGCTGGAGGGAAAATTAATTTAATTTTACGAAAAAACAATTAATCTT ACAGAATGGTAAGAGANNNNNN

Table 4

ACGCGGGTCAAAAGGATGAAAATGTTTTCTGTCAGAATGAAATTCAAGAAAACTTAA AGGAAATAAAAACTATTTAGCACCCAGTGAGGTAAAAATCGCAATGTCTGGTGTCCAGTCAG TTACCAGGCATGGAAAGAACAGGAAAAACATGAGCCATCATGAGGAGAACAATTAGCAGAAA CCAAACCAGAACTGACATACCAGAATTGGCACACAAAAGGATATTAAAACAATAACAAC TGCGTTCCATATGTTCAAAAAGTTAGAAAACATGAAAAGATACAAAAATAAAATCAAACTTCTAAA GATGAGAAAACTGTAGTGTTTGAGGTGAAAAAATATGCTAAATGGCATTA

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TTACCAGGCATGGAAAGAGACAGAAAAACATGAGCCATCATGAGGAGAACAATTAGCAGAAA
CCAAACCAGAACTGACATACCAGAATTGGCACACAAAAGGATATTAAAACAATAACAAC
TGCGTTCCATATGTTCAAAAAGTTAGAAACATGAAAGATACAAAAATAAAATCAAACTTCTAAA
GATGAGAAACTGTAGTGTTTGAGGTGAAAAATATGCTAAATGGCATTA

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864 **Table 4**

TTTCAAAGCACATTCACAAAGGGTATGTCACTTAAATACCTCAAAATTTCCCTGTTATACATGC AGATCATTCCCCATTCAGCCCTGGTATGGACTGAACTGTGTACCTGCCCGGGCGGCCGCTCGAAAGGGCCGAATTCCAGCACACTGGGCGGCCGTTACTAGNN

>974

>975

>976

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ACCTGGCAGCAGAGTAGGCACTAATATGTGTTGAATGAGTAGGTGAAATAAACAAAA ACCTAATGGCGATGGAATTTTATGGAAATAAGTAAACTTCATTATTGCTGAAAAATACCGCAGA TAAATAGAGGGAGGCAGTGTAATAGAGTGGAAAGAGCAGTAGACCAGGAGTCAGACCAGTCG AGGATCTCATTCTAAATTTGAAGGTGAATAGCCATGTGGCTTTAGACAGGACTCTGAACCAC CTTGTTTTCTTATCTGTAAAAAGGGGGAAGTCATAATAGCTACTCCTGCCTAACTCATAGGTTG TTGAGAAAATGAAGTGN >980

>983

865

Table 4

CTGCCCTACCTAGTTAGTTGGTCCTGCCCTGGGGCCAGAGTTTCACTAGGGGCTGAATAGT
ATACTGTTAGCTCAGGCAACAGATGAACTCTGCCTCCATGCGCAAATACAAAAAGCTATCTC
TGCTTCTTTTTCACTCACTTAAGATTTTGGAAGAATGGCTCCTAAAGCGGGTGATCATCTGCC
CTCACGACCTACAGTGCCTCAGCATCACATGCTATTCATTTTGCACAGCAAAACCAGGAAGT
GAATATGACTGTTATCCCTACTTCACAAGTAGAGAACTCTGAGGCCCTGAGAGGTTAAGAGG
TGCAGGTAAGATTTGAACCTACGGGCTGTGTGCGGTGGCTTATGCCTGTAATCCCTGCACTC
TGGGATTACAGGCGTGGGCCACCACACCCGGCCTACTGCCTACCATTTTGCCCAAGCTTCC
CAGTACTAGAAGAACCC

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ACGAGATTCCTCAGGGTCCTCTAAGCTCCTTGAGGGCAGAACTTATCTTTGTATTACAGCT
AGCCTTCAATCAGTAGGTGTTGAGCTGATTTTCTTTTTCCTTTTTAAACTCAGAAGTTAAGTTC
CAGCTTCAGTGGCTATGCCCAGATGGTCTGATTCTGAAGGACAAGAGAATTCAGTGGCATAA
GCCCTGTGCTTGGCANN
>984

>986
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CAGCTTAAGTTGTGGACAAATATCAAGGGGAAAAGTATTTACAGTTGAACTTGGAATCACAC
GGTTTTCGNGGGTTGTGCCTCTTTACCCTTCAACTTTGGTGGTTCTAAAGAGGGACGATTAT
TAGTTGCTTTCACTAAGGAGGGAAAGTTCATGATGGAGCAACN
>987

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866 Table 4

GGCAGAAGAAATAAGTTGGGTAAAAAAAACCCCAGAAATGTTTACTAATAATTATTTTAAA AACTCATAGGATAAACAAGAAGGTAATGAAATAATTAAT >989

ACATCTCTGGAAGGTGATCCTTCTTATACAGATACCAAAAAGCACTTAGTGATTTATT TTTTGTCCAGGACAGGTTTCTGAACATTTCTGCTTGTAATCAAAATGGCCTGGTAAATGTTTA TAAACTTATTTTAGCTAATTGATGAAACTACTGTAGTTTTCTTTTAAGTTTATATCAGGATACCA AAGCAACATATTTAGCCCCCACGTCTGTTGAGTCTTTAAAGGACCTACTAAGATTATTAGTAT AGATTCTCAAATATTATTTTTTCAGAAGGATGTATTCCTCTTTTTTGCTGTGGTAGTAGAATTT GTAATTAGAGTTTATGGAGAAAAAGGACTAAGGGGAAGGGTGGAGGTCACAAATTTATAAAA GCCCTGAACTATTTCTCATTTAACACGTATTCTCTGATCATTTTTTCTAGTGTGTTATTTTTGTT TGTTGTTTGAACATCTGAAATAAACATAGGCTGGGCAGGGTGGCTCACACCTATAACCCTA GCAATTTGGGAGGCTAACACGGGAGGATTGCTTGAGTCCCGGGAATTCGAGACCAGCCCTG >990

>991

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>992

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ACCAAGTTGTTCTCAAACTTTCATGTTTGTGTATACAAATCAGCTGAGGCCTTCACTA AACTACAGATTCCATGGCCTGGCCTCAGAGATTTTGACTCAACAGGTCTGAGTTGGGACTA GAAATATGCATTGCTAATAGGCACCCTGACAATTCCGATGTAGGTGGTCCTTAGAACATATTT **TGAGAAATATATTCTGTAGTCN**

>995

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>997

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CCACTTGGGTTCTCCTTTTTTATTATTCGGCAAAATGATAAAAACCTAAAGCCTGTTTATATAG GGTTTTCATGGCTAGAGTTGTATAAAACTGCATTTTGTCAGTTTGAATAAGCCCATTTGAATG AGTCAAATTTTTTAAAAGCCTCGAGATCCAACAAGCTGGAAAAAAGTAGGGGTGGGGGTTA **AATGGTTCATTTGAGATGTTGGCCTTCAGTACCATGAGAGGGAAAGCAGAACAANNN**

Table 4

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AATGGTCTGTGGACTTTATTTAGAAACTGTTTTTCAGTTTAGTTTTTTTGGACATATCCTTTGCT
CAGTGTATTTTGTTACTTCTCTAGTAAAGGTAGAAGTGAAGCAGATGCCATTGTAGGTTTTAC
CAGCATTTAAATATATTATGAATTGCTTAGCAATGAAATGCAAGTATTGTTTTACTTAAAG
ATACTATTTATGTATTCAGCTACAGAGATGAAATAGCATTTTATGTTTTAGTTTTTGGCTAT
AAAATTTAAGTCCTTACAGCATTTGGGGGATTATACACTTGGATTTCAAAATTGATAAAACCCTT

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Table 4

GTGAACATATCTAATAGATATTCTGTTTACTTGTAGAAATAATATATGTGTCTGGTTCTGTTT TGTTAGACATTTTTTATGTTCTACTGAATCAGAATAGTCAGTGTTATATTCCTTATTTCAAGAAT GTAATACCGAAGTACTGCACTGCTTTGTTCCTGTTTCCTTGTGCTGATTCCTTTCTAGTATTTA GGTAACATTACCGGATGGCATTCCCTTAAATTCCACCAATCTTAATCTTATTTTAAAATGGCTA CTTTTAGGGGGTGGGGTACGGTAAAACTTAATAGTACGTGTTTATCTCAGTTAATGTCTGGAT ATCTATATGCACTGGTTAACAGTCCCGACCGTATATGATGGCGTATTTAGGAAAGATATAATA CTGGCCTTTTAATATAAAAATCAAAAAGAGCGAAAAAGAGGGGGGGAAATCCCGGGGGCCT AAGCCAATATTAAAGGAGAAAGAGGATAAAAAGCGGTAAAAGAGCGAAGATGTAGAAACCC >1006

ACATAGTTCTGCTTGCATTGGTCCCATTACAATCCTGTCTAAATCCTGAAGTAAAAAT GAATACCATAGTGAAGAAATTACTTGTGCATGTGAAAGAGGCTGGTCCAACTCCTTAATTGC AACAGGGATTTGATTCTTCTACTAGTAGTTAGGAAAGGTTGCATTAATATTCAGTAGTTAAAAT GTGCGATTCTAAATTTTTGTAATTTCCCATGAGAGAATAAATTTTTTCAAAAATATTCCCAGT **AGGTGAATGGCTTTAATACATGGTATCTGTGAAGATGGCAAATAAAATGACT** >1007

>1008

ACACTGGCTCACCTCTCAGGGCTTTGCTCCTTGGGAGGCTATTCAAGCTCAGCATC ACCTGTCTCACATCTGTCTGGGATCCTCAAACCTGACCTTTGTAAATTTCCACTAACTGAAGA TTGTAGAGGAAAAAAAAAACATCTTATCGAATTCCTGCTCTTATAGCTGATTTTAGCTATTAG GAAAACATCCCAAGTTGAGCTTTTCTATTCCTAGAATTTCAGATTTCTTTTCCTTTTTAAAAAATTT GTCAAAAATAAAATCATTTTA >1009

NNNCTTCTCTATATTTTTAAACTTCCTTGATTCTCACTTTTCTCATATATAAAATGAAAT CAATGTTACAGTCAAAATTGCCTTTCAAAAATTCCTTAAGTCTACCCATTTTCAGACTTAGTGA AAAATATATAGTCTAGGACCTATAGTGTATAATAATGCACACTTAAGCGAAGGAAATGGTGAG CTAGGCTAGAGAAAGACTAAGGGAGCATTTATATACATTTGCCTAAAATATTTAAACTTTCAG GGTAACTCGGTTGAGAAGGGATGAGTGAAGAATTCTAGAGAGTACCTTCTTGCCTACAGCGT TTAGCTCCGTTTGTTTTGCATAAAGATCTGTTTTCTGACTTCGCATGAGGGGTAGTATGTTCA GCTTATTCTCACTATGTAAATTACTTAGTAAATAATAGGAAGAGATGTTGAAATACAAACTTTC TGCCACCAGACCTTCACTCTATTGCAGTCATTTTCTCCCACTCTCCCCCCTCTCTCCCACTTC

NNNCGAGGTACTCTTTCAGATGAAAGTGTTCGGTCACCTGGAACCTGTGAGTATGT GGTTTTTGATCTGTGACTAAACTGTCACCCATTTCCCAGTTTCTCTGCTCCGTCAAATATCAA CATTITACCAGGTTTCTCTGTTGTTGCCAAACCTGTCATTTTTATTTGGTGTGGCTTCTTGGG AAACTTCCATGGCCCATTTGATGGGAATCAAACAGTGAAAACAAGGACAGATGCAACAGAGG TGGCATCAGGAACAATGGGTCATAAGAACTTACCTTGGCAGCAGCCCCAGAATGGTCAGG **AGGAAAGGCACTCTAAGGTATCAGAAGGTAGAAAGGAGAGGTTGGATGATAGAATGGGGAA** TGGATTCCTCCTCGCGTTCACAGAAATGAATTAATGGGAGACAN

ACTGAGACACTGGATCCTAAGAAAATCAGAGTTATAGCTAGTGGCAGTTATCAAGGG CAACAACTCCCAATTCGTAATGTCTTAAAACAAAAACAAGTTTTATTTCCCATTTATGCCATGT TTCCAGCACAGTTTCTCAGAGGGCTGTGCTCCATGCATTTACTCAAGGTCTGGGAATGATCA TGGCTACACTATCTTGCAGCCACCATATTTGGAACCTGTTGCCACTCTGATGGCAGCAGAAA ACAAAAGAAACCCAAAGATCATGTATGAGCTATTCACT >1012

ACGGCTTTTTTGTTCTTGTGCAGTAACAGTGAGGCCATGATTAGCCATCTTTGCCA GCTGATGTCTTGTGGACACCTGCCTTGTTACCACTCTAACAGGCCCGTGTCAGCAGCTCCG CTTCCTCCTGACAAGCTGCGAGCACAGGGGGACAGCACAATCTGAAACTCTTACAGATACCAA

Table 4

AAGCTTTTTTATATTTGACTCCTACTAATAATAAGGATTTGGTGGGGGGAAAGAGAAAATAAA TTTCAATAAGATTTTTCCTCAAGGGAAGCAAACNN >1013

ACGCGGGGGGTCTCACCATGTTGGCCAGGCCGGTCTCAAATTCCTGACCTCAAGTG
ATCCTCCCCGTCAGCCTCCCCAAAGTGCCAGGATTATAAGCAGGAGCCACCGCGCCCAGC
CTATTTTGTTTCTTAAATTTTTTTGTTTTTCAGTCACCACAATTTCACCATGCATAAATCACAAC
GGTTAACAATTTAGCATCTTTGCCTTCTTTTCCTGTGCACTTACGTTTTTATGTAGCCAAGATC
ACACGTTGCATTTTGCTGCTTTCCTTAACAGCGTCTAAGTCATCAGCACTCTATTGTGATGAT
TTATCTTAAAAATATTCCAAGCGATCATTTTTAGTAACTGTGTAATATTATATCATAAAGTTAAA
ACATAATTTGTCATTCAATTGTTGAAATTTTTAGGTTACGTATATTTTCTCTTATAAATATGTAA
ATATGTTTATAAAAAGTTATATACAGTTTTTTATAAATCTTTGTGCATACTTTATACTGTTTCCT
TAGCATAGAGACTGTGGAATAGGATTTCTTGAAAAAAAGGTAAAAGTGTGAGTATGCATATATA
CTGGTACATATATGNNN

>1014

>1015

>1016

ACAAGTATTATGTATCCATAAAAATTAAAAAATCTTTAAAAATGCATATGGGGGTCAG AGATCCAGCTCAGTGATCATGCGGGGGAAAAGGCCCGGCATTGCTGGAACTCCTAATATTT AAAAGATGATGGAAACTTGAAATTTTATATTTAATCTTCTCATTTTTAAGTGTTGGCAATGTA TTGAAGACTTTGAAGCCTCTCTGCTGGTCAAACAAGATGTATCTGTAGGCTGGATTTAGTCC ACAGCTGGCCAGTTTGAAAACTGAATCCTGCTAGCCTTAATTTAAATTTTTAAATTTAAATTT GCTTTGATTCCTGCACTCCTGCTCAAAAAAATCTTCAATGGCTCCCCACTGTCTGCAAGGTAA AGTCCAAACTTTGTCACCAGTCCTTCAAAGCAACCCATGACTATATCCAAGACCCCAAACCAT **ATTTCTACCTTATAGCCAGTCTCCATCTTCCACCGCAACCAGAATGATAGTTGAATTGTACTC** TAGGAAGGAAAATATTCAGAAAGGCACCAGTCCTGGCCATGAGGGCTGCTTCTGGGTCCCT **AAGCTTTTTCCTTTCCTGCAGTGCCCTACACTGTGCATGCCTATCAATGAAACCCTGTCCATC ATTAACCATCCAGCTCAAATACCACCTCTCCACAAAACATCCCTGATGGCCCAGCCAAATGC** GTTTGGGTTTTGCACTATATTGAATATCCCTGTAGTGCTTTGTACATAGCANNNNN >1018

Table 4

>1019

ACTTACAGTCTTAAGATATCCATACACCCCCACATCCGTCCTTTGTGCGAGAAGATT
ACTGAAAATTTAATTCCATTTATGTCATTGGATTTGTAAAAAAACCCCTTCTGGATTCAAAGATG
AAGGCCTCACTTACTTTATTTTTGTCATTTCACAGACCCCTTATGTAAATGCCTCAAGAGTAA
GAATCTTGCTCAAGTGATTTTTGTATCTCCAATGGCTAACAAGGAGCCTGACATAGAGTAGCT
GCTTGGTAAATATGTGTTCATTCATTCAACAAATACCCCCAAGGNN
>1022

ACTTGTTTCTCCCCTTCGGACCACTCTCCCCACTAGACAGCTGTATGGCCGGCTCC
CTCACTCTCCTCAGGTCTATCAGAGGGTGGCCACTGACCTCATTGTCTCAAACATTATATAG
AACACACACGCACCCATGCACGCACCACCGTCGTTCTTCATCCGCCTGGTTCCGTGCACTATT
CCAGGACCTACAGCAGTGCCTAGAACACAGAACATCCATTAGCAACATTTGTTTAATGAATTT
ATAGTGCCTAAACCTGCACAACTCTGACTTTGCCTTGCTATTAGAAAATGCAAGGCCAGGCG
CGGTGGCTCACACCTGTAATCCCAGCACTTTGAGAGGCCGAGGTGGCGGATCACTTGAG
GTCAGGAGTTCAAGACAAGCCTGGCCAACATGGCGAAACCTATTCTTTACTAAAAATACAAA
AATAACCTAGGGCTGATGGCATGTCCTATAAN
>1026

NNNNCGANAGTCTTCTAGNATTAATTAACTTAGTTGAAAGTGTTCTGAAACTT<u>GCCAG</u> **ACTCAAAGTGTAGAGCACAACAGCAACTGTGCTTGACCGTACTCCTTGGTTTACATCTATTGT** CTTGACAAAAATATTAATAGCATTTCCTTTCACTTTTAGAAATACTCGAGTTTGTATGATAAATT TTAGGTTCACTTTACCCTCATGCTATAAATTGGTGGTGTTCTGGTTGGACTTGGTGAATCAGG AGATTGTATAATCAACAATTACCCAAAGCAGAGATTCTGATTTAGTAGGCCAAGGGTGGCCT ACTAAATGTGCATTTTAAGAAGGCATGTCTAAGGATTCAGGTAGTAGTGTGAGAAGCAGTAC TCTGTTTCTGGTACTGAGGCTAATGGTCTTAGTTGGGATAAGGAGAGTGGGGAAGGGGCAG GGGGAGATGAAATTCATTTATCCTCTGTGATGCTATGGAAGAACAATTAAGATCATGTTT CCTACTTGATTTTAGTTGCTAGTCATTTCTTAATCTAAGCACCCCCTATAATTTACCTATGTCA GCCCTGTGCGTGAGCATGTCTATAGTTAAAGACTTAATGAGAAAGCATCAAATTGTGGTGCA AACAGCTGAAAGTAGAAGTAAATCACAACGTAATAAGATGCAACTTTGGAGGAGCTCAAAGC AACAGATACGTTTTTATCCAAAAAGGAGTAAAACAAAAAAATCGTCAACGGCAGTTCCTTCAG TCCATTTATACTTTTTAATGTTTATTAAATTACTTTTCTCTATAGATATGCAGATAAGATGTTTT **AAATGTGTAAGTGGTATAAATGTCCCATGTGTCTTTTATTCTAGAGCATAAGAAAAGATGGGA** AGCTACCTCAAACTTGTTTTGAGGCAAATGTAGTATGAATCCCTAAACATAACACCAGTACTG CTAAATGACAGTTATCTAATCTCACTGATGAACAAGAATANNNNNNN >1027

ACTAATTCTTTTCCTCTTTCCTAGACCGATTCTAGTTTGTTGCCTTCCCTTTCCTCGG
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CAGCTGCCAGGGCATAAAGACAGAGACGATGTGGCCTTTGTCCTTAAGAATGAGGTTTGAAA
GCCCCAGTTCTTCCATGTTAGGTGATTTCTTGCAGCTCTTGGTATCTGCAGAATTAGTGTGAA
TGCTTAAAAAAATATTAACAGCTTTATATCATGAAAGTTTTAACATGN
>1028

>1026

ACTTTGACCTGTATGTAAACTCTAGTTACTTTGGTCTTCTCAGGCTCTTGACTCTTTC
ACAATTAAAGTAGTCTTTGAGGCTCAGCCTGCTTTCCTCATAGCTATGCCTATGGCCTGGACA
CTCAGGGGAGTATAAGCTGAGGCAAACATGGACTCATTTGTTTTCTAACTTTCAGGGATTATT
GTCCATCATTGCCTGATGTCCAGTGTCTTGAAAAGCAATT
>1031

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>1034

>1033

>1035

>1036

CCCACGCGTCCGATCAAACCAGGAGCAGGTGCAGCCCGGAGGCCCCCCCGTGG GGAGAAGCGGCTGGGGGTCCCTGCATCTTGTACTGCGGCCCCTCCAACAAGTCGGTGGA TGTCCTGGCAGGACTGCTCCTGAGAAGGATGGAGCTGAAGCCCCTCCGTGTGTACAGTGAG CAGGCTGAGGCCAGCGAGGTTCCCAGTGCCGCGTGTGGGCAGCAGGAAGCTGCTCAGGAA GAGCCCCGGGAGGGGAGGCCGAACCAGAGCCTCAGGAGCATCACCCTGCACCACCGGA TCCGGCAGGCCCCAACCCTTACTCGTCGGAAATCAAGGCCTTTGACACCCGGCTGCAGAG AGGGGAGCTCTTCTCCAGGGAGGACCTGGTCTGGTACAAGAAGGTCTTGTGGGAGGCTCG GAAGTTCGAGCTGGACCGGCATGAGGTCATCCTCTGCACCTGCTCCTGTGCAGCCTCTGCC CTGAAACCCTCATCCCCCTGGTGCAGTTCCCACAGGCCGAGAAGGTGGTTCTTCTCGGAGA CCACAAGCAGCTGCGGCCTGTGGTCAAGAATGAGCGGCTGCAAAACCTGGGTCTGGACCG GAGGGCATCTGTGCCTTCCCCTCTGTGGCGTTCTACAAGAGCAAGCTGAAGACGTGGCAGG GCCTGAGGAGGCCGCCAGTGTCCTGGGCCACGCTGGCAAGGAGAGCTGCCCTGTCATCT TTGGCCACGTGCAGGGCCACGAGCGGAGCCTGCTGGTGTCCACGGACGAAGGGAATGAGA ACTCCAAGGCCAACCTGGAGGAGGTGGCTGAGGTGGTCCGTATCACCAAGCAGCTGACCC TGGGGAGGACCGTAGAGCCCCAGGACATCGCCGTGCTCACGCCCTACAACGCGCAGGCCT CTGAGATCAGCAAGGCCCTTCGGCGAGAGGGCATCGCCGGGGTGGCCGTGTCCTCCATCA CCAAGAGCCAAGGGAGCGAGTGGCGCTATGTGCTGGTGAGCACCGTCCGCACCTGTGCCA AGAGCGACCTGGACCAGCGCCCCACCAAGAGCTGGCTCAAGAAGTTTCTGGGCTTCGTTGT GGACCCCAACCAAGTGAATGTGGCTGTCACGCGGGCCCAGGAGGGGCTCTGCCTGATCGG AGACCACCTCCTTCTGCGCTGCCCCCTCTGGCGTAGCCTCCTGGACTTCTGCGAGGCT

ACTCTTATCAACTGTTTTATAGATGAGAAAACATTAGCCACAGCTTAGCTTATTTGAA GTCACAATAATATTAACTAAGTAAGAGCAAAAGCCAAGATTCAAATGTAGATTATTTTACTACA GACTGAGAAACGAATTAAACTAGGAGCCTAAGATACTTTCTGGAATTGAAATGATACATTATA TATACCTATAAAGATAATTGGCTATAGCTTCCTAAACTACAAATTGTCATAAAAATGACTTCTG TCCTATATCAATTAGAAACTGGTATTAAAATTGAGTATTATAAGACAATAGAATGN >1041

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TCTTCGTCAGAGAATCATGTGTCGTTTGGTTTAACTTCCTGCTGGATTCTGGATGGGAGTTGT
TGAACATATTAATCTCATTATTTTCTGTAGAGGACAGGTTGTCCCCCCCTTCCTCATTAGCGC
CCTGACTGCTTGTTAGGGCTCTCTGCCTCTGGCCCTGTGACCAGCACGGTTGCTCCAGCAG
GCAGCAGTGCGTGGGCCTGCTCCCATGGCAGAGACAGGGCTGTGAAGCTTGGGT
>1042

ACCTGCTTTGATTATTTCCGAATCCAGTGGGTAGAGAAGGTAAAGGCAAGGGCTC

>1043

>1044

>1045

>1049

>1050

>1051

ACCCATCTCTCCATTCTGGGAATCTGGGAAACTAAGCCTGTAACTTGTAGCTTGTA GAATGAATGATGGAGTAGAATAAATAAGAAAGGAATATATCATTAAATGCACAGGTTAAATAA ATAAAAATCTATTAATAAAGAGCCTAAAGAAAGAAAGATGACATTTCAGCACATATTGGGTGA AATAAGTTGTTTAGTCCAGCACTTCTCAATTTTTAGTGGATATGTGAATTGCCTATTAAAATGC

Table 4

AAATTTTAAATTAGTTAATCTGGGTTGGACCTGAGTCTGCGTTTCCAACAAGCTCCCAGGTGA TGTCAATGCTATTGGTCCAAAGACTATGTTTTGTGTAGCAAGGGTTCTAGATACAATTACATT AGAAAAGATCAGAGAAAAGTGGAGTGATTGT >1052

ACATTAACTCACTGACTTACTCTGGGTTGCTATTGTATTAAAATTCTGTATAGACATTA
CGTAGCCTCAGAGTTGAATTTGGACTGCCCTTAAAATAAAAAATTCTTAAATCTTTAGTGTGG
TGTCTATTAATTTTTATGATGATTTACAAGTTGGAAATGATTACTTTGCAAGTCATAGTTTACTT
TGAAGTTAATAAGAGTGATTACAGTAAAGGAAAAATGCCATATATGGCATTGTTCTTAACAGC
TTATGAAATTTGGAAAACGATATTTTAGAAAGCTTTCTCTTGTTGGCTGGAATGAAGN
>1057

>1058

>1059

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Table 4

>1060

CCCTTCGAGCGGCCGCCCGGGCAGGTACAGTTACCAAAACCCATCCAACTAAAAAT TTAAGCTTTTTGCATTTTAGTGGATGCAAATTGTGTCTTAGTAAGAAGAACATACAAAACTAA GAAAGATAATGTTGAAGAAAATAACAAAGCTTAAGGACTTAAACTATTACCATCAAGACATGT ATAACTACAGTAATTTTAAAAACTGTTTTCTTGCATAAGTATAGAGAAATGTACCTCGGCCGC GACCAC

>1061

>1063 >1064

ACTTACTACAAGCAGCAAAAGGAAGCTCTAGAACAAGGAATTAAACACAGTGTTTGT
TTCCAATCGCAGAAGAGGCCATGAGCACCATATGTGTGTCAGGCTTATCATCTGAACCAAAG
AAAGGCCAATCCTTCACCTTTCTTATGACTCTTATAGGCTGCAATATTTCACTTGGCCATAAA
CAACTTAATATCTCACACCTAGTAGTATTCAGTGACACAGAAAGGGAAAGAGAAAGGATGAA
GAACAGAGGAAAGAGAAATAATTTCCCAAGATACAAATTTAATATTCTTTCCAAAGCATAAGA
GCAATTAAAAAAATANNNNNNN

>1065

>1066

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>1068

Table 4

TGGCATTTTGTTGTTTTTCCAAAGTCAGTGGAGGATTAAAGGTACTGATGTGTTTCCCTCTAA
TCACGTCTTTTTCTTGGCTTCAAAGGTGGTTTGTGGTCTTTGCGGTAAAATAAGNNNNNNNN
NNNNNNNNNNN

>1069

>1070

>1071
ACCAAAACTGAAAAAAGATTGTGTATCCAAACATTATTTCACATAAAATGTATTTTGAT
AAAGTAAATTCCCAAACCATGGTGCTCAGAGGTTGTAACAGTCCATGTAAGTTGAAGAAAAA
GAGTTATCAATCAATACGTGACTATCAATCATTTATTTAATCATTATTTAGTTTTCACANN
>1072

>1073

ACTGGGTCACTCTGCCCAGCTCTCCAAAGGCATCAAGATCCGACTGCTAGGAGCC CCGGCTTCTTCCCTGACCTGCCCGTCTCCTACACCCTCTGGTCCTGCCCACACTGGTCTAA TAACTGGTGTTCCACATTCCTCTAACGTGCACAACACACGTCCTGCCCCGTGCTTTTCACCT CCTGTCCATTCCTCTTATAACGCTCTTCCCCAAATCGCTTGCCCATGGCTTGTTTGCTCATCN NNN

>1075

>1076

ACTTCACTGATTTATGGCAAGTCAGCCAATCCATCAGTGCTCAAAGCTCCTTGTATT GTCAGGAATGTCTAACATTATTTGTCACTCATTCAGAATTAAACTGCCAACTAGTAGCATTTG TTTTGTGTCTGATAGATTCTTCATGCAGAAAGAATAAGTAAAATGAGATGGGACACAAATCTG AGTATAGCATTGTCATTACTTTTTGCTGCACAGATTACTTGCAAGAAATATTCTAGTCTGGGG CATAACAGAATCCACAAATTCCAGATTTAAGAAATAGGTCTATATAAAGCTTATTTAATATTTG GTATANNNNNNN

>1077

>1079

>1080

>1081

>1082

GGCTTCCTTTTGGACCGCCGAGGAGGTGGACCTCTCCAAGGACATTCAGCACTGGGAATCC CATAGTAAATGAAAACTTGGTGGAGCGATTTAGCCAAGAAGTTCAGATTACAGAAGCCCGCT **GTTTCTATGGCTTCCAAATTGCCATGGAAAACATACATTCTGAAATGTATAGTCTTCTTATTGA** CACTTACATAAAAGATCCCAAAGAAAGGGAATTTCTCTTCAATGCCATTGAAACGATGCCTTG TGTCAAGAAGAAGGCAGACTGGGCCTTGCGCTGGATTGGGGACAAAGAGGCTACCTATGGT GAACGTGTTGTAGCCTTTGCTGCAGTGGAAGGCATTTTCTTTTCCGGTTCTTTTGCGTCGATA TTCTGGCTCAAGAAACGAGGACTGATGCCTGGCCTCACATTTTCTAATGAACTTATTAGCAG AGATGAGGGTTTACACTGTGATTTTGCTTGCCTGATGTTCAAACACCTGGTACACAAACCATC GGAGGAGAGAGTAAGAGAAATAATTATCAATGCTGTTCGGATAGAACAGGAGTTCCTCACTG AGGCCTTGCCTGTGAAGCTCATTGGGATGAATTGCACTCTAATGAAGCAATACATTGAGTTT GTGGCAGACAGACTTATGCTGGAACTGGGTTTTAGCAAGGTTTTCAGAGTAGAGAACCCATT AGTATCAGAGGATGGGAGTGATGTCAAGTCCAACAGAGAATTCTTTTACCTTGGATGCTGAC TCAGCTGAAGTGTTACCAACTAGCCACACCATGAATTGTCCGTAATGTTCATTAACAGCATCT TTAAAACTGTGTAGCTACCTCACAACCAGTCCTGTCTGTTTATAGTGCTGGTAGTATCACCTT TTGCCAGAAGGCCTGGCTGTGACTTACCATAGCAGTGACAATGGCAGTCTTGGCTTTA AAGTGAGGGGTGACCCTTTAGTGAGCTTAGCACAGCGGGATTAAACAGTCCTTTAACCAGCA CAGCCAGTTAAAAGATGCAGCCTCACTGCTTCAACGCAGATTTTAATGTTTACTTAAATATAA **ACCTGGCACTTTACAAACAATAAACATTGTTTGTACTCACAAGGCGATAATAGCTTGATTTA** TTTGGTTTCTACACCAAATACATTCTCCTGACCACTAATGGGAGCCAATTCACAATTCACTAA GTGACTAAAGTAAACTTGTGTAGACTAAGCATGTAATTTTTAAGTTTTAATTTTAATGAA TTAAAATATTTGTTAACCAACTTTAAAGTCAGTCCTGTGTATACCTAGATATTAGTCAGTTGGT GCCAGATAGAAGACAGGTTGTGTTTTTATCCTGTGGCTTGTGTAGTGTCCTGGGATTCTCTG CCCCCTCTGAGTAGAGTGTTGTGGGATAAAGGAATCTCTCAGGGCAAGGAGCTTCTTAAGTT **AAATCACTAGAAATTTAGGGGTGATCTGGGCCTTCATATGTGTGAGAAGCCGTTTCATTTTAT** TTCTCACTGTATTTTCCTCAACGTCTGGTTGATGAGAAAAAATTCTTGAAGAGTTTTCATATGT GGGAGCTAAGGTAGTATTGTAAAATTTCAAGTCATCCTTAAACAAAATGATCCACCTAAGATC TTGCCCCTGTTAAGTGGTGAAATCAACTAGAGGTGGTTCCTACAAGTTGTTCATTCTAGTTTT GTTTGGTGTAAGTAGGTTGTGTGAGTTAATTCATTTATATTTACTATGTCTGTTAAATCAGAAA TTTTTTATTATCTATGTTCTTCTAGATTTTACCTGTAGTTCATACTTCAGTCACCCAGTGTCTTA TTCTGGCATTGTCTAAATCTGAGCATTGTCTAGGGGGGATCTTAAACTTTAGTAGGAAACCATG GAGATGGAGTCTCGCTCTGTTGCCCAGGCTGGAGTGCAGTGGCGCGATTTTGGCTCACTGT AACCTCCATCTCCTGGGTTCAAGCAATTCTCCTGTCTCAGCCTCCCTAGTAGCTGGGACTGC AGGTATGTGCTACCACACCTGGCTAATTTTTGTATTTTTAGTAGAGATGGAGTTTCACCATAT CTGGGATTGCCGGGTGTTAACAATTTTCTTATAGGGGACCTTGAATTAACTGCCTTTTTTGGG CGAGAAGCTCGGACTTGCN

>1083

>1084

NNNACATTATCCACATTTAACACCTTTTCAGTTGATGGCTGATTATCTGATTTTGCAA
ATGGTGCCTCACTGTGGGGATCCCCTCCTCTATTCTCAGATGTGGTGATGGTCCCCTCGTTT
TTCGACGTGCCTCCCGCTGTGGGCTGCAGTGTCATATGAATCTCGGAAGCACATTTCAGAA

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Table 4

GTCTTTCTATCTTTTGTTCATAATCTTTGAGTAGTCTCTTCACTTCTTGTTGACTCTTCTGTGA AGGCAGCTCTTCACACAGCTCCCTCAGGACTTCCATGTGGTGATTAAGCTGGTACAGGCAG AAGTTTCTTTCTTTATTTATTTGCTTTTCAAGTTTTAAAATATTGTCACTAAGCTTTCCTTTTTC AATATCTATTTTAGTTGTTGAACATATAAAGACAGTTCATGATGAAGAGACTCCCATTTGGCA CAGACATCTCTACTCTTTTCTTCTAAAGACATCTTTATGTCCTCAGTTACATTATTTTTAGTTC TTCAACAGCTTTCAAATACTTGGCCAGACTTTTTGTATTAGAAATTATTAGTGCTTCCTTGTGT TTTGAAATGAGTTCACCGGGGCTCTCTCTTTGCCCCAGTAACTGCTGAGCCCTCATCATATA TGATTCAAGTTCCTTCTGGGATTCTTCCATCTTCAGCCTGATGTCCAAATCTGGTGAAACGTC AGTTAAGTTCTTCAACGCTGCAATGAGTTTTACCACATTGATCTGGACTTTCTCTTTAGCTTCT TGAATCTTTGCCTGAAGCCCAGTTGTGAGAACATGTTGAAAGGACTCCTGGCTTGAAATATTT TGTATATCCATTTGTAACATATCTTCACTTCTTGCCATAAGCTTTCATCAAACATAGAGCCCTT TGGCAATAAGATGCTTCAAAGATTCTTCCATTGAGGTGTCCACATCATCTTGATCCAAAACAG ATTTGGCTTCTGCCTCCCAGATTTCCACTTGTCCAATGAGTTTTTCAACATCTTTAGCCACTTT TAGTTGCCCTGTGAATTCTTCATTTTCTTTTTCATGTTTCTCTCCAGCCTTTATATTTTGATTAT AATTTTCAGGAAGTTCTACTGACATATCTGTTGAAAACTCAACAGTTGCTTTCTCTTCTTTAGA TAGAATATTTCCAGAATTGTCAAAAGTGGGCTGATCCTGTTTTTTTATCATCAGTGGCAGGTT CATTTCAAGTTGAGTTTTTGAAACCAACTTTCTCCATCTTTTATTCAGCCTTCTCAGTTCTTTA GAAATAGATGATCCAACCACATCATTGCTGACTTCGACTAAGAAATTTCCTGCTTCATTTAAA TTTGTCTCCTCAAAGCAAGCCCTTAGTAAGCGAAGGTTTTCCACATAAGTAGCCCAACATGC TTCACCATCATATACTGTTTATTAATATTCTGACATTCTCCAGCCAAATTCTTATAAATTTCTCC ACATTTTTGAAAAGAAGTATCAAGTCGAGCTAGGAATTCTTTTTCTTCAATAAATTTATGCCAG TCTTCCAGCAATAATTCCACAGATTCTCTGCTCCCATATTTAATGTTCCAAATATCCAATTTTG ATTTCACTTCATCTACCAAACCAAGAACTAAGCACTTGTAGTAATGAAATTCTAGAAGTAGAA TAAATTTTTTCTCCAAAATGTTGTTGATTCGTCTTTTCATTTCCTCCAATTTGTTAGGTGGTAC CAATGGCAAGTGATTTTCATCCTTATTTTCAAAGGTAAGGAGAATGTTCGAATGATGCTCAAA TCTATCCATCAGGCTCTTGAATAAAGTCATTTTCTCTTGTATCAGAGTCACGGCTTGAGAGTG ATCCTGGGAGGCTGACAAATCTTCATCCATAAGCTCTTCTACCTCCTGGAGCCAAGCTTCAG TTTGATGGAGGGTGGGGGCAAGGCATAATTTAGCTTTATTTTCCATGCATTAATCTGGTGA TCGAGGCCATCCCAGGCTTCTCCAACTGTAAATGATCCTTGTCCAGCTCATCCAGATCCCG TTTTATTGACAGGACATCCAAAAAGGACTTTTTTTCTTCATTGAATGACTCCATAAAGGACAG CAGGCTATTATACTTTTTAAAGTAGGTATCATTCTCTGAATCCTTTAGCAACTTCTGTAGTTTT TCCTTTTGCAGAGTTAACCAGCCCATAGCATCTTTCACCTTTCCCTGAGCCTCCTCCAGTC CCAGGGGCATCTTTGGAATACTGCAGAAACTGTGCCACATAGGTCATGATGGACTTTTCATC AGGATCAACACATCCACATCTTCTGGTTCCAGCAATCTGGGGGATTTTTAATTCTTGTTCTGC AATTCTGAAGGCCTCTCTCAGATTGTCTTTGTTGGATCTATGCTTCACACTCTTCATGTCAATT AGGTCTGGTCGCAAGGCATGAATGATGGCCAAAAAAGCCATCCCATTTCTCCAACTTGACTT AAAATCGGTCACATTGACAGACTCATAGGTGGCGCATTGTTCCTGAGCCCACAAAAGAAGA GCCTTTCTTGCAGACATTTGCCATCTTGCTTGCACTTTAGAGCATTTCTTAGCTGGAGGACTT GAGGCAGGAGATGAGTCAACCACACTCACATCATCCAGGGAAGGCTGATTGTAATTGCAAG AAAGAGTCTGGGCAAGCTTCTCAATATGAAAGTGCAGGATAATTGTCCAAATTAGGCCAAGG TTCTTAGGAATGTCAAGGCATGTTCTATATTGATTCTACACTGGAAGGTATTAGATCCTTTATC CCGAGGCAACTGTTGCCCAGAAAGTACTTCTAGCAGATCCAGGAGGACATGCCCCTTTTTAA TGTCTGTGAATAGGTCGGATATAACTGAGGGAGAAGTGTGCCTGGCCAACTGTGAGTTTATC CAGCACGTGAAGGCTTTCTTCTGGGTGTCTTCCTGTTCAGCTTGCAATGAAATATGGAGATC GTCGATGCCCCAGGAACCCTGTTCATCTTCGGTGGGAAGCTCAGGACTAGATGCCATTCTTT GACTCAATGGAGATTATATCATGTCCATCTCAGTTGAAGAAGTGAACGTCCGCCCGGCCGAG GGGCAAGGGCGCGGGCCGGGCCCCGAGGTCGGCGCCCCGCTTGCCTGGCTCTCTGG ATCGCGCCTTTTGCTCGCTCTCCCTCTCGCTTTTTCAGGTCCGGCCGAAGGCTCTGGGCGC **AGCTGAGCTCGTGCC**

NNNNNNNNNNNNNNNNNNNNNNNNNNNNNNGGAGACAGGGTCTCGCTCTATCACCTAG
ACTGGAGTGCCTGGTGCAATCTCGGCTCACTGCAACCTTCACACCCCAGGCTCAAGTGTCA

NNCACGAGGATTCCTTCTTTTGGTCGGTTCTGAGTGTGGGGTGTCTACTGGG GATCTGCTAAGGCTAAGAGGCAAAGATAGGCAAGTCACTCCCCTGACCTCAAGAAACTCCC AGTCTACAGGCGAAGATACACCACCACCGGTAGAGTCGCTGGACCAGAATATTAGGTGTT CCAGTCAAAGTCACCCAGATTTGCCAAAAGACCTGGCACAAATGTCACTTCCACTATGAAGT CCCACTGACTTCCATATACAAGACAATCTGCTGGGAATTTCTTGGGTTGACAGCTCTTGGAT CAGAACATGTAATAATGAAGTGGTCAAAATGCAGAGGCTAACATTAGAACACTTGAATCAGAT GGTTGGAATCGAGTACATCCTTTTGCATGCTCAAGAGCCCATTCTTTTCATCATTCGGAAGCA ACAGCGGCAGTCCCCTGCCCAAGTTATCCCACTAGCTGATTGCTATATCATTGCTGGAGTGA TCTATCAGGCACCAGACTTGGGATCAGTTATAAACTCTAGAGTGGTAAGTGTCTTCACATTCT TTAAGCACTAAAGAAAACTTTTAATTAGCTACCTTGCTTCCAGTAATCAAACTAGAGCTCCTCT GCCTTGTGTAAGTTGCTATAAAGTATTGACTATTAGAATGTCTTGAACTTTGGTTACTGTGAG CCAAGTCGGTGCTCAAAGTATATTTCATAGTCTCAATTATATAGTAATTTAGGTTCTGAAAAAT AGGTTCTGTCTTTGCATATGTAATATTTTGTGAGTATTTACTTTGGAAAGTTTGGTCGACCTAA TTGATGAAGCTATGTCATACTGGTCGATATCAT >1089

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TTTCGCGAGTGTGAGAGGGAAGCGCCGCGCCTGTATTTCTAGACCTGCCCTTCGCCTGGT TCGTGGCGCCTTGTGACCCCGGGCCCCTGCCGCCTGCAAGTCGGAAATTGCGCTGTGCTC CTCCTGGTGGCCGCGATGCTGCTGCTCAGCGCGCGCGCGGGCCGAGGAGGAGGACA AGAAGGAGGACGTGGCACGGTGGTCGGCATCGACCTGGGGACCACCTACTCCTGCGTCG GCGTGTTCAAGAACGGCCGCGTGGAGATCATCGCCAACGATCAGGGCAACCGCATCACGC CGTCCTATGTCGCCTTCACTCCTGAAGGGGAACGTCTGATTGGCGATGCCGCCAAGAACCA GCTCACCTCCAACCCCGAGAACACGGTCTTTGACGCCAAGCGGCTCATCGGCCGCACGTG GAATGACCCGTCTGTGCAGCAGGACATCAAGTTCTTGCCGTTCAAGGTGGTTGAAAAGAAAA ATTTCTGCCATGGTTCTCACTAAAATGAAAGAAACCqctGAGGCTTATTTGGGAAAGAAGGqtac ccatgcagttgttacctGTACCAGCCTATTTTAATGATGCCCAACGCCAAGCAACCAAAGACGCTGGA ACTATTGCTGGCCTAAATGTTATGAGGATCATCAACGAGCCTACGGCAGCTGCTATTGCTTA TGGCCTGGATAAGAGGGAGGGGGAGAAGAACATCCTGGTGTTTGACCTGGGTGGCGGAAC CTTCGATGTGTCTCTCTCACCATTGACAATGGTGTCTTCGAAGTTGTGGCCACTAATGGAG **ATACTCATCTGGGTGGAGAAGACTTTGACCAGCGTGTCATGGAACACTTCATCAAACTGTCT**

Table 4

TCTCAGCATCAAGCAAGAATTGAAATTGAGTCCTTCTATGAAGGAGAAGACTTTTCTGAGACC CTGACTCGGGCCAAATTTGAAGAGCTCAACATGGATCTGTTCCGGTCTACTATGAAGCCCGT CCAGAAAGTGTTGGAAGATTCTGATTTGAAGAAGTCTGATATTGATGAAATTGTTCTTGTTGG TGGCTCGACTCGAATTCCAAAGATTCAGCccacactagcgttcacaagcagatacatatccacaatggacaaqqc cattcatgggtgcatcaaaagcatcaccaggtgcacactggataatagcgttggatagtatggtaccctccaccacctagggatactcga cacactggtgcgagaagagcagctcacctgaccccaacaccagcagtccacaacqggacaccccaagctggaagcacatacaac aaagaaaacgacatccaggactccaccacacctacacggactctcccggactcccatccacgcgccaaactggataaacccaacta gtgcgctaccaactcgcgccctccccggacaccgccgcaccaccccccacgccattggacatcccacaacaaccacgccgggcac acacaaacgacaacaaclecgccacacgactacacaccactacagcccgccactaaccgcaacgcccccaccccaggcacaca clacgccaacccgccaccacggcaaccacgcgcgatgccacacaaacacaaccgggcgaccaccccgctcccacacaccacac accaacacgcaaacacctccccaccaccaccacaacaacaacgaactcccaggcccagggatagacactagcacaccacac ccgcacgccgagatcagcaaaccacacacaggacccacgcggtcagcagccgtcggcacctccacgacaacaccacagc cagegaceagaceaceageceataeaegecectaeaeagecaaeegeeeeetgeaeegeaeageaageaaeaaaaagegaea ggetgaaacagcccgccaacgcaccagccccctgcagcgaccacggaccaacacaggggcatgcaccagtagcaccgagaca actggacagcgcacgcaccacggcagtacacgatccaccgacgca >1094

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Table 4

AAGAGAAAGTCTCCAAAGTTGATTTCTTACTCTGACAAAGACTGTCCCCATTTAATCCTCACA ACAGTTGCCTATGGTAGGTACTCTTATTCCCATTTTACTACCAGTATAACATAACCTCTCTGA GCCTCAATCCTCTTATTCCCATTTTACTACCAGTATAACATAACCTCTCTGAGCCTCAATTTT CATCAGTAAAACATGATATCTACTTCAATGCAAAGAACTAATTGAGATAACATATGTAAAAAGA CTAGtcagttcAAAAAAGCgg

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caTttaacTTtttattaCTTTTTAAAAATCCAAATTCagaTAAATTaacacACTAGGTTAGAACCT CAATTGTATTtgatacagaAGGTATTGATGACTTTATTATTCTGCAGGTACATGTCCAGGGGCCC GCCACGCCCATCTTTATCACCAGAATGAGGAACTCCTGGAAGTTAACTGCACCATCAGTGTT GATATCCAACTCTTTGAACCAGACGTCTGCACCCTTTTTCCTGATATACTGAGGACACTCGGT CTCTAGCAATTTCTTCAGGTCATCCCTGTAGACGCATGGAAATTCCCCTTTATCAGGGAGT ACTTGTGGTAGACGTCGATGATAGAGTTCAAGGCTTTCTCCAGCTCGGTCAACATGATGCCC ACGGACTTGCCCCACCATGTCTCTTGTCAGCTGTCTTTCAGAAGACCTGGTGGGGCAAGTC CGTGGGCATCATGTTGACCGAGCTGGAGAAAGCCTTGAACTCTATCATCGACGTCTACCACA AGTACTCCCTGATAAAGGGGAATTTCCATGCCGTCTACAGGGATGACCTGAAGAAATTGCTA GAGACCGAGTGTCCTCAGTATATCAGGAAAAAGGGTGCAGACGTCTGGTTCAAAGAGTTGG ATATEAACACTGATGGTGCAGTTAACTTCCAGGAGTTCCTCATTCTGGTGATAAAGATGGGC GTGGCAGCCCACAAAAAAGCCATGAAGAAAGCCACAAAGAGTAGCTGAGTTACTGGGCCC cccagctgattttagactcgggcaagtttaggcatgcggccgaaattggggctaacttgcccaattccgcctaatggggagcgtattcaa attaactgcccqtqqtttaacaagtcggaattgaaaaacccttgctgtacccaacttaatcgccttggagaaaatcccttttgccagttggcg taaata

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TAAGTGAAATGCTTCACAAAATGCCTGGTAAATAATAGATGCTTAGAAAATGGTAGAGAGAA
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ACGCGGGATTCCCCCATGTTTTCTTCTAGAAGTTTTACAGTTTTACGATCTACATTTT TGGTCTATGACCCATTTTGGTTAAATTTTGTGTAAGGGATGTTATACATGTGGAGGTTCATTT TTTTGCATGTAAATATCCAATTGTTTCAACACCATTGGTTGAAAAGACGGTATGTTCTCCTTTG **AATGCTTCTGCGCCTCAATTAAAATCAGTTTACTCTATCTGCATAAGTCTACTTCTGGGCTGT** CTACTCTCTTTCATTGATCTGTATGTCTGTCCATTTTCCAATACCACTGTCTTTATTACTGTAG TGCACAATTAGTATGCTAAATCAGAGCAATCTTGTTGTTTCAAATGGTTTATGGGAGAAATAT TAGCCAGTGTCTTCACATGCTCATTGATGATAACTGTAGCTTATGTGAAATCATTGTTTCTCA GCCTTGCCAGCTATTTCAAAACCACTGCCTGTGCTCGGTAAGTGTTGCCTGTGTCATCATTA TTGTCTGGACCAAGGTGATCATAATTTGATATCTGAGAATGGTTTCTGCTGCATAGTAGATGG CAATGACAGGAAACATCCTGATCATTCGTCCTGAAGACTACTTTCTGTTACTGCTAAAATTTA ATAGTATTATCATCCTGCCTCCTAAATTTTTACATCAAAATAATTGTTAAGCACAGGACTTAGA AAATAATTTGAAAGGCGATGTCATTTAAAATAATTTTTAAAGTGATTTTGTAGATTCATAGCAC TACACTITATAAATACCTCATCTGAAGAAACCTTTGTGTTAGACGTTCCCAATAGCTGGGAAA **CTGCCCATGAAATGATCTCAGTTACAAACN** >1103

NNNATGTTGTTAAGATGTGTATAGTAAACAGAGTTGTGTCTAGTGCTTGTTTTCATGA ACTITTGGCAGATCTTTCTTAGTGACTTTTTATCTTCCTCGGGTGTGTCGGTGTTACCCCC ATTTGTGTATTTTTTTTGTAGAATGGACATGCCCGAACGATGTTTGCATTGAAAAGTGCACGG TTTTCCTTTTTTTTTGGCATGCAGCATATATAAAATGTGATCTAGAATTGAAATTGTAAAACA GAATAATCCTCTTAAAGAAAATCAGCCTATGAACAGTCAGACTTGTCCTTCCATGGAAAACAT **AATCTAAACTTCTTTAAAAACTGGCCATATTTTTTCAGTCTGTAATTCGAATAATGAAGATGGC** ATAACAAATTTTTTTGCTTACTAGGAATGCGCAAAAGGATGAGATGGATACACAGGTTTAAAA AAAAAAAAAAAGGCCACTGGGATATTTAGTATTTGTCCAGATGCAAAACAATTTCAGAATAA TGAAAATTTCAGTCCACATTAAACATTTTAAAGCATAACTTCTAATATTTTGTTAAAAATAAGTC AAACTAAAGGCATAAATCAGAATTACCTGTTAACATAGTGGGGAAAGTAGGGAAGCCCTCCA GGGGCCCGTGCCCCAAGTAAAAGACAAGGAGTTAAATTTTACAATGAAATCCACGTATACT CAGGCTCTTTACACTAATAATCAAAGTGGAGACCAACCAGTTCCTAAAGCATAAAAGAGTGAT TTTAAGAAAATATCACATTTTGAGTTACGGTATATTCACCACATTTTTCCCTGTAATTTTCACTT TAACAGTGATAGTCTTAGCAGCAAAAATTTGCTGGGAATGTTAGGAAAAAAGGAAGCCACAC ATACCTACTAATTTAAAAATATATAAACTATTTTTACAGAAGGGCAGGTTTAAAAGAAAATCC AATCATGATCTTTTCATGCCATTTTTTGTCAACTTTCCATACACACGCAGACGCTAACAAAGTA CTGTGTCATATACACTGAAGTGTCCTGAAGATGCCTGTGAGCTGCTGATTCCAGCTGGTACC AGGGAAGCATGTGTGGCTAAGTTGCAACAAACTTAAATTTGTTCCCCTTAGTTCTTCATCTTT TTAAAAGCTGAATAAACTTAATGTCAATCGGGTGGGGCCGGTATTAACAGCATCAACCGCTT GCTTACTATGAATCATCCGCAACAGAAACCCACGTGCATTCTCCATTCTTAAAAAGTCAGTGT AAAACTAACGGCCACTTCCTCCCTAGGTGCCTACTATCGCTATGTCTGACAGCATCTGTAAC AGGACAAGCTCACCTCTCTACACGGATTCATCCAAAGCCACACACTAGGCCAAATTCTCC CAGTGGAATCAAAACACTGGAAGTAGAGCAAGAACCTCATGCCAACATTGGCCCAATCACAC CTCAGTGACTTAGGAGTTCATCATATTTGATCATAAAATTGCTCCCGGCGCCAAACCTTACAC CTAAAGACTGTAGTTTTAAAAAGCCACTGTACCGTCCACAATTATTCTGACCACTCTTTTCTAA

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Table 4

ATGGAGAATGTGCTACGCACTGAAGATCAGAACACACGCGGGGAGCCCTTGGGCACTGAC CCTGAGCCTGTACACAAGATCAGCTGGTACTAGTCTCAAATGATTCATGAGGACTCAAAGTG GAAATTTAAACATTCAATTCTGTGTATCATTCATGTGCCCAGAGTCTTCAAAGAATGCTCGTG TTAGTTACCTGACACCTCTGGAGAAGTGACAGGGATATTCGTGTGAATAACCATGGCTCCCT TCCAGACAGACATATGGAATCTTACTCTTAAAAAAAGTAAAGATATTTCAGATATCAAATGTATT ATAATATACTGCGGTCTAAAGTTAAAGGCAAAATTTACACACGATTTTCTCTTCCATGACTTTA TTACATGTTTCCTAGTGAATTCACACGGCTCGTGTGTCAAAGCTCCCAGGCACGTCACTTGG TCACAGTTTTCATGTGCGTGGGGTTGATCATGGTACAAATGCCTATGCGCATCTTTTTCTCG GATGGTCTCATTTGACTTTCGTAAGGGTTCACTCTCCATGGTGTAGATGATAAGCTAC CACATTTGTGCTTTTAAACCCATTCCTGGCAATCCCCCTTTATCTTCATTTTGTCTTTAGGGG GATAAAGAAGTAACACTACCTCATGAATAGAAACTATGAAGCCAAAAAACTCCTTCACAAGCT **GTTCATTTCTTTTTAGAATGAAAATGCAGGTCCTGAATTCTCGTGAAGCAGCCCACAGGGTTA** CAGGCCAATGATTCGAACGCTGAGGTGAACACTTAGTACTCGCATTTGAGCTTCAAAGTAAA AATAAAGCAGAGGACAAACGCCTGTCACAGCGTGGCAGCCCGGTTCATTTGGTAACAGAAC ACAGCCAGGCACCTGTTCAAAAGCCTCTCTGGTGGTGGCGGTGGACCCCAAAACCCACGG GTTGGAAGACCTTTGGGAAAGCAAATTGATACCCTGATTGCAGTCCTTGAAGAAATCACTT AGGGTTAGTTTAATAAACGAACATTAAAAAATCTTCCAAAAATTGCATTCAAATGTATTTTACA CTTTAGGCAGTTCTTAAGAAGGGAGAGTGCAGTTTCTTACACTAACATTAAAGGTTTANNNNN

GCACATACCAAGCATTGTCTGTAACAGAATAATGTCATGGACACACATGCAGATAAA
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AGAAGCTAAAAATACAATAACTCTCTTATACTGGTACTTGCAATGGTTTGACATTAAGAGAGA
GACTATACATTCACAGAGGTTGGGAGCTTCTGTCTAGCCTGTTGTCCAAAACTGCTTATATAA
TTTAGCAACTAATTTTCACTTTTGACAACTATTTTAATTCTAGAGAATACGTTTATAAAGATTTT
CTTACAGTGTTATCTATCCTTCCAATGACTTATTATAAATTTTAGAATGTATTTCTATAGGGTG
GAAAAATCTCCTTTAGTCAGAAATTGAACAGTTTTCATGAAGAACATGTTACACCATGTAGAAA
CATGGGT

CCACGCGTCCGCTGACTGTCTCTCTCTGTCTTGTAATATTGCCACTGCGCATATGTT GGAGGATTAAAACAAACAAACAAAAAAAACATTTCCTTCGCTCCCCTCCCCTCCCACTCTGA GAAGCAGAGGAGCCGCACGCGAGGGGCCGCAGACCGTCTGGAAATGCGAAGCCTAAAG CGTTTCCTCGCTTGCATTCAGCTCCTCTGTGTTTGCCGCCTGGATTGGGCTAATGGATACTA CAGACAACAGAGAAAACTTGTTGAAGAGATTGGCTGGTCCTATACAGGAGCACTGAATCAAA AAAATTGGGGAAAGAATATCCAACATGTAATAGCCCAAAACAATCTCCTATCAATATTGATG AAGATCTTACACAAGTAAATGTGAATCTTAAGAAACTTAAATTTCAGGGTTGGGATAAAACAT CATTGGAAAACACATTCATTCATAACACTGGGAAAACAGTGGAAATTAATCTCACTAATGACT GGAAAATGCAATATGTCATCTGATGGATCAGAGCATAGTTTAGAAGGACAAAAATTTCCACTT GAGATGCAAATCTACTGCTTTGATGCGGACCGATTTTCAAGTTTTGAGGAAGCAGTCAAAGG AAAAGGGAAGTTAAGAGCTTTATCCATTTTGTTTGAGGTTGGGACAGAAGAAAATTTGGATTT CAAAGCGATTATTGATGGAGTCGAAAGTGTTAGTCGTTTTGGGAAGCAGGCTGCTTTAGATC CATTCATACTGTTGAACCTTCTGCCAAACTCAACTGACAAGTATTACATTTACAATGGCTCATT GACATCTCCTCCCTGCACAGACACAGTTGACTGGATTGTTTTTAAAGATACAGTTAGCATCTC TGAAAGCCAGTTGGCTGTTTTTTGTGAAGTTCTTACAATGCAACAATCTGGTTATGTCATGCT GATGGACTACTTACAAAACAATTTTCGAGAGCAACAGTACAAGTTCTCTAGACAGGTGTTTTC CTCATACACTGGAAAGGAAGAGTTCATGAAGCAGTTTGTAGTTCAGAACCAGAAAATGTTC AGGCTGACCCAGAGAATTATACCAGCCTTCTTGTTACATGGGAAAGACCTCGAGTCGTTTAT GCATGAATTTTTGACAGATGGCTATCAAGACTTGGGTGCTATTCTCAATAATTTGCTACCCAA TATGAGTTATGTTCTTCAGATAGTAGCCATATGCACTAATGGCTTATATGGAAAATACAGCGA AACTGAAGAAATAATCAAGGAGGAGGAAGAGGGAAAAGACATTGAAGAAGGCGCTATTGTG

AATCCTGGTAGAGACAGTGCTACAAACCAAATCAGGAAAAAGGAACCCCAGATTTCTACCAC

Table 4

AACACACTACAATCGCATAGGGACGAAATACAATGAAGCCAAGACTAACCGATCCCCAACAA GAGGAAGTGAATTCTCTGGAAAGGGTGATGTTCCCAATACATCTTTAAATTCCACTTCCCAAC CAGTCACTAAATTAGCCACAGAAAAAGATATTTCCTTGACTTCTCAGACTGTGACTGAACTGC CACCTCACACTGTGGAAGGTACTTCAGCCTCTTTAAATGATGGCTCTAAAACTGTTCTTAGAT CTCCACATATGAACTTGTCGGGGACTGCAGAATCCTTAAATACAGTTTCTATAACAGAATATG AGGAGGAGAGTTTATTGACCAGTTTCAAGCTTGATACTGGAGCTGAAGATTCTTCAGGCTCC AGTCCCGCAACTTCTGCTATCCCATTCATCTCTGAGAACATATCCCAAGGGTATATATTTTCC TCCGAAAACCCAGAGACAATAACATATGATGTCCTTATACCAGAATCTGCTAGAAATGCTTCC GAAGATTCAACTTCATCAGGTTCAGAAGAATCACTAAAGGATCCTTCTATGGAGGGAAATGT TTTCTCCAGACTAATTACACTGAGATACGTGTTGATGAATCTGAGAAGACAACCAAGTCCTTT TCTGCAGGCCCAGTGATGTCACAGGGTCCCTCAGTTACAGATCTGGAAATGCCACATTATTC TACCTTTGCCTACTTCCCAACTGAGGTAACACCTCATGCTTTTACCCCATCCTCCAGACAACA GGATTTGGTCTCCACGGTCAACGTGGTATACTCGCAGACAACCCAACCGGTATACAATGGT GAGACACCTCTTCAACCTTCCTACAGTAGTGAAGTCTTTCCTCTAGTCACCCCTTTGTTGCTT GACAATCAGATCCTCAACACTACCCCTGCTGCTTCAAGTAGTGATTCGGCCTTGCATGCTAC GCCTGTATTTCCCAGTGTCGATGTCATTTGAATCCATCCTGTCTTCCTATGATGGTGCACC TTTGCTTCCATTTTCCTCTGCTTCCTTCAGTAGTGAATTGTTTCGCCATCTGCATACAGTTTCT <u>CAAATCCTTCCACAAGTTACTTCAGCTACCGAGAGTGATAAGGTGCCCTTGCATGCTTCTCT</u> GCCAGTGGCTGGGGGTGATTTGCTATTAGAGCCCAGCCTTGCTCAGTATTCTGATGTGCTGT CCACTACTCATGCTGCTTCAGAGACGCTGGAATTTGGTAGTGAATCTGGTGTTCTTTATAAAA GGGCCTGAACCTTCTTATGCCTTGTCTGATAATGAGGGCTCCCAACACATCTTCACTGTTTCT TACAGTTCTGCAATACCTGTGCATGATTCTGTGGGTGTAACTTATCAGGGTTCCTTATTTAGC GGCCCTAGCCATATACCAATACCTAAGTCTTCGTTAATAACCCCAACTGCATCATTACTGCAG CCTACTCATGCCCTCTCTGGTGATGGGGAATGGTCTGGAGCCTCTTCTGATAGTGAATTTCT TTTACCTGACACAGATGGGCTGACAGCCCTTAACATTTCTTCACCTGTTTCTGTAGCTGAATT TACATATACAACATCTGTGTTTGGTGATGATAATAAGGCGCTTTCTAAAAGTGAAATAATATAT GGAAATGAGACTGAACTGCAAATTCCTTCTTTCAATGAGATGGTTTACCCTTCTGAAAGCACA GTCATGCCCAACATGTATGATAATGTAAATAAGTTGAATGCGTCTTTACAAGAAACCTCTGTT TCCATTTCTAGCACCAAGGGCATGTTTCCAGGGTCCCTTGCTCATACCACCACTAAGGTTTTT GATCATGAGATTAGTCAAGTTCCAGAAAATAACTTTTCAGTTCAACCTACACATACTGTCTCT CAAGCATCTGGTGACACTTCGCTTAAACCTGTGCTTAGTGCAAACTCAGAGCCAGCATCCTC TGACCCTGCTTCTAGTGAAATGTTATCTCCTTCAACTCAGCTCTTATTTTATGAGACCTCAGC TTCTTTTAGTACTGAAGTATTGCTACAACCTTCCTTTCAGGCTTCTGATGTTGACACCTTGCTT **AAAACTGTTCTTCCAGCTGTGCCCAGTGATCCAATATTGGTTGAAAACCCCCAAAGTTGATAAA** ATTAGTTCTACAATGTTGCATCTCATTGTATCAAATTCTGCTTCAAGTGAAAACATGCTGCACT CTACATCTGTACCAGTTTTTGATGTGTCGCCTACTTCTCATATGCACTCTGCTTCACTTCAAG **GTITGACCATTTCCTATGCAAGTGAGAAATATGAACCAGTTTTGTTAAAAAGTGAAAGTTCCC** ACCAAGTGGTACCTTCTTTGTACAGTAATGATGAGTTGTTCCAAACGGCCAATTTGGAGATTA ACCAGGCCCATCCCCCAAAAGGAAGGCATGTATTTGCTACACCTGTTTTATCAATTGATGAA CCATTAAATACACTAATAAATAAGCTTATACATTCCGATGAAATTTTAACCTCCACCAAAAGTT CTGTTACTGGTAAGGTATTTGCTGGTATTCCAACAGTTGCTTCTGATACATTTGTATCTACTG **ATCATTCTGTTCCTATAGGAAATGGGCATGTTGCCATTACAGCTGTTTCTCCCCACAGAGATG** GTTCTGTAACCTCAACAAAGTTGCTGTTTCCTTCTAAGGCAACTTCTGAGCTGAGTCATAGTG CCAAATCTGATGCCGGTTTAGTGGGTGGTGGTGAAGATGGTGACACTGATGATGATGGTGA TGATGATGACAGAGATAGTGATGGCTTATCCATTCATAAGTGTATGTCATGCTCATCCTA TAGAGAATCACAGGAAAAGGTAATGAATGATTCAGACACCCACGAAAACAGTCTTATGGATC AGAATAATCCAATCTCATACTCACTATCTGAGAATTCTGAAGAAGATAATAGAGTCACAAGTG TATCCTCAGACAGTCAAACTGGTATGGACAGAAGTCCTGGTAAATCACCATCAGCAAATGGG CTATCCCAAAAGCACAATGATGGAAAAGAGGAAAATGACATTCAGACTGGTAGTGCTCTGCT TCCTCTCAGCCCTGAATCTAAAGCATGGGCAGTTCTGACAAGTGATGAAGAAAGTGGATCAG GGCAAGGTACCTCAGATAGCCTTAATGAGAATGAGACTTCCACAGATTTCAGTTTTGCAGAC **ACTAATGAAAAAGATGCTGATGGGATCCTGGCAGCAGGTGACTCAGAAATAACTCCTGGATT** CCCACAGTCCCCAACATCATCTGTTACTAGCGAGAACTCAGAAGTGTTCCACGTTTCAGAGG CAGAGGCCAGTAATAGTAGCCATGAGTCTCGTATTGGTCTAGCTGAGGGGTTGGAATCCGA

GAAGAAGGCAGTTATACCCCTTGTGATCGTGTCAGCCCTGACTTTTATCTGTCTAGTGGTTC TTGTGGGTATTCTCATCTACTGGAGGAAATGCTTCCAGACTGCACACTTTTACTTAGAGGACA GTACATCCCCTAGAGTTATATCCACACCTCCAACACCTATCTTTCCAATTTCAGATGATGTCG GAGCAATTCCAATAAAGCACTTTCCAAAGCATGTTGCAGATTTACATGCAAGTAGTGGGTTTA CTGAAGAATTTGAGACACTGAAAGAGTTTTACCAGGAAGTGCAGAGCTGTACTGTTGACTTA GGTATTACAGCAGACAGCTCCAACCACCAGACAACAAGCACAAGAATCGATACATAAATAT CGTTGCCTATGATCATAGCAGGGTTAAGCTAGCACAGCTTGCTGAAAAAGGATGGCAAACTGA CTGATTATATCAATGCCAATTATGTTGATGGCTACAACAGACCAAAAGCTTATATTGCTGCCC AAGGCCCACTGAAATCCACAGCTGAAGATTTCTGGAGAATGATATGGGAACATAATGTGGAA GTTATTGTCATGATAACAACCTCGTGGAGAAAGGAAGGAGAAAATGTGATCAGTACTGGCC TGCCGATGGGAGTGAGGAGTACGGGAACTTTCTGGTCACTCAGAAGAGTGTGCAAGTGCTT GCCTATTATACTGTGAGGAATTTTACTCTAAGAAACACAAAAATAAAAAAGGGCTCCCAGAAA GGAAGACCCAGTGGACGTGTGGTCACACAGTATCACTACACGCAGTGGCCTGACATGGGAG TACCAGAGTACTCCCTGCCAGTGCTGACCTTTGTGAGAAAGGCAGCCTATGCCAAGCGCCA TGCAGTGGGGCCTGTTGTCGTCCACTGCAGTGCTGGAGTTGGAAGAACAGGCACATATATT GTGCTAGACAGTATGTTGCAGCAGATTCAACACGAAGGAACTGTCAACATATTTGGCTTCTT TGATACACTGGTTGAGGCCATACTTAGTAAAGAAACTGAGGTGCTGGACAGTCATATTCATG CCTATGTTAATGCACTCCTCATTCCTGGACCAGCAGGCAAAACAAAGCTAGAGAAACAATTC CAGCTCCTGAGCCAGTCAAATATACAGCAGAGTGACTATTCTGCAGCCCTAAAGCAATGCAA CAGGGAAAAGAATCGAACTTCTTCTATCATCCCTGTGGAAAGATCAAGGGTTGGCATTTCAT CCCTGAGTGGAGAAGGCACAGACTACATCAATGCCTCCTATATCATGGGCTATTACCAGAGC AATGAATTCATCATTACCCAGCACCCTCTCCTTCATACCATCAAGGATTTCTGGAGGATGATA TGGGACCATAATGCCCAACTGGTGGTTATGATTCCTGATGGCCAAAACATGGCAGAAGATGA ATTTGTTTACTGGCCAAATAAAGATGAGCCTATAAATTGTGAGAGCTTTAAGGTCACTCTTAT GGCTGAAGAACACAAATGTCTATCTAATGAGGAAAAACTTATAATTCAGGACTTTATCTTAGA AGCTACACAGGATGATTATGTACTTGAAGTGAGGCACTTTCAGTGTCCTAAATGGCCAAATC CAGATAGCCCCATTAGTAAAACTTTTGAACTTATAAGTGTTATAAAAGAAGAAGCTGCCAATA GGGATGGGCCTATGATTGTTCATGATGAGCATGGAGGAGTGACGGCAGGAACTTTCTGTGC TCTGACAACCCTTATGCACCAACTAGAAAAAGAAAATTCCGTGGATGTTTACCAGGTAGCCA AGATGATCAATCTGATGAGGCCAGGAGTCTTTGCTGACATTGAGCAGTATCAGTTTCTCTAC GTAATGGTGCAGCATTGCCTGATGGAAATATAGCTGAGAGCTTAGAGTCTTTAGTTTAACAC AGAAAGGGGTGGGGAACTCACATCTGAGCATTGTTTTCCTCTTCCTAAAATTAGGCAGGAA AATCAGTCTAGTTCTGTTATCTGTTGATTTCCCATCACCTGACAGTAACTTTCATGACATAGG ATTCTGCCGCCAAATTTATATCATTAACAATGTGTGCCTTTTTGCAAGACTTGTAATTTACTTA TTATGTTTGAACTAAAATGATTGAATTTTACAGTATTTCTAAGAATGGAATTGTGGTATTTTTTT CTGTATTGATTTTAACAGAAAATTTCAATTTATAGAGGTTAGGAATTCCAAACTACAGAAAATG TTTGTTTTTAGTGTCAAATTTTTAGCTGTATTTGTAGCAATTATCAGGTTTGCTAGAAATATAA CTTTTAATACAGTAGCCTGTAAATAAAACACTCTTCCATATGATATTCAACATTTTACAACTGC AGTATTCACCTAAAGTAGAAATAATCTGTTACTTATTGTAAATACTGCCCTAGTGTCTCCATG GACCAAATTTATATTTATAATTGTAGATTTTTATATTTTACTACTGAGTCAAGTTTTCTAGTTCT GTGTAATTGTTTAGTTTAATGACGTAGTTCATTAGCTGGTCTTACTCTACCAGTTTTCTGACAT TGTATTGTGTTACCTAAGTCATTAACTTTGTTTCAGCATGTAATTTTAACTTTTGTGGAAAATA GAAATACCTTCATTTTGAAAGAAGTTTTTATGAGAATAACACCTTACCAAACATTGTTCAAATG GTCGTTTTACAACGTCGTGACTGGGCCCTGGCGTTACCCAACTTAATCGCCTTGCAGCACAT CCCCTTTCGCCAGCTGGCGTAATAGCGAAGAGGCCCGCACCGATCGCCCTTCCCAACAGT **TGCGCAGCCTGATGGCGNN**

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NACGAAATTTAATACGACTCACTATAGGGAATTTGGCCCTCGAGGCCAAGAATTCGG CACGAGACAAAAATTAGCTGGGCATAGTGGCGGGTACCTATAATCCCAGCTACTCGGGAGG CTGAGGCACGAGAATCACTTGAAGCCGGGAGGTGGGGGTTGCAGTGAGCCGAGATCACAC CACTGCACTCCAGCCTGGGCAACAAGAGCCAAAACTCCGTCTCAAAAAAAGATGAAAATAAAAT AAAATATATATTTACAGGCCTACAACTTTTGCCTCAGACTGTTCCCCTTTTCTAAGGGTATTCA AGTTTTCACCTTTTAAGCTTCATATCCTCAGTGCTTGTAGAATGATGAGCTTAGAGGTACCAG GTCATTGCAGTTGTTTGCTTAAAGACTTATTGAAATGGTTACTGGCGTAAATACTTGGCCAAC TCAACTITATTGCCCCTGATCTTTTCCATTTTTGTTTCCACCTTAACCTATAGCAGCTCCTCCA AATGAGGAATGCTGTAAGTAAGACTCATCAAACAGATTTTAACCATTTTATTATCCTGTGTGT CCTTACATTGCTTCTGTGAGATGTTTTTTTTCTTATCTGAGATGAACTTTCAGGAGCCTATTTGA ACTCCAGACTGGTGTTCTGGGGCAAAGAGCTATTAGCCAAACTGATTCTATGCAGGTGAAGG GCTTAATTTGGAATAGAGAAACCAGTATATTTTAAAAAAGAAAAATATTCTTTGTAGCAACTGT **AAATTCTCCCATTATAACAGTGAACAGAGCTCCAGGTAATAACGCATAGGCATGTCAGGTTG** CATCTGTATATTTGACTACATTAGTATTAGTGACATCAGGTGGATATAAAAGAAAACCCTTGG AAAGAGAACTGCCTTAGCCATGATTTCGTTAGTAGACCTATTTATGATTCAATTGCAATTTTCA GATAGGATGTGAACATGGAATTTCATTGAAAATAGTTTAATTTTTTATATAAAAGGTTTTGTAT ATAATGTGTGTCAGTGACTATTTTCAAAATCATTTTCATCAAGACACCTTTTTTCTAAAATAGG CATTGCATACACATATGCACACGTATGTGCACGTGCCACACATTTTTTGTATAATGTTGGGTT TGATTATAAAAGTGTTGTCAAATGTTTTATTTATCTGCATATAGCAGTGGTTGGCTTTTTTGAA **ATTTTTGCATATTTCTGTAATATTGCAGTCCCCAGATCCAGAACATGGGAAGTTAGGGAAAAT** AGACATTTCATTGTACTGCAAAAATCTGAATATTTATATTTCTTGTTTTTTCTTTATATGTTTT GCATTTTAATATGTTGAGCCACTGGAAATTTGTAACAGATTAATTTGTTATAGGAGTTTAAATG TGTTGTCATTGTCTCCATTGTCTTTGTCCAGAGCCTATTATTATGGAAACAATAAAATTTATTG ACTAGGATAGGTCATAGGGAGGCGGAAGGACCAAACAACGCGACGCCAGTCAAGACATGG

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Table 4

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NNNNNNNNNNNNGAGACAGAGTCTCACCCTGTCGCCCAGGCTGTAGTGCAGTG GTGCCATCTCAGCTCACTGCAAGCTCCGCCCACTGGGTTCACGCCATTCTCCTGCCTCAGC CTCTCGAGTAGCTGGGAATACAGGCACCCACCACTATGCCCGGCCAATTTTTTCTATATTTA GTAGAGACGGGGTTTCACCGTGGTAGCCAGGATGGTCTTGATCTCCTGACCTCGTGATCCA CCCACCTTGGCCTCCCAAAGTGCTGGGATTACAGGCGTGAGCCACCCTGCCGGGCTGAAAA ATAACCCTTTAGATATCTACAGCTTTAAACTGTGTGCAGTCATGAAAAGCAGACATTGGGAAG TCATTGGCATTTAATAAATTGCAGAAAAATTATACAGTAAATACATTACAATCATTAATAATAG GCTCTAATGAGAAGAATTTAATAAATAATCATTAAAAAAGACAGCAGAATTTTATCTGTTCTCAA TATGTTGCTGCTCTTCTTATCAAATACTATAAAAACTATATGACTATAATATAGATTTCAGG AGCTAAAAAAGCCTTATATTTTCAAATAAAAGAACAATATAAATTTTGCAAAATATGACGAGC ATTACTGCAGTATAAAGTAAATATCTGGAATTAAAATATACCATCATTTAGATATAGACTAAAA AAAAAGAATATAAATGTTAATGATTCCTTTCTGCCTGCAGTGAGCTTAAAATTACAACCAAAAA TTTTAATAAATATGTAGCACCTACAAGACATTTTATTAATAGCTTACATAATGTGGAAATTTGA ACATAAAGCGGAATTCCGACGACCACAACCACCTCGCGCTGGACCCCTGCCTCAGTGA CGAGAACTATGACTTTAGCTCCGCCGAGTCGGGCTCCTCGCTGCGCTACTACAGCGAGGGT GAGAGCGGCGGCGGCGGCAGCTCCTTGTCGCTGCATCCGCCGCAGCAGCCTCCGCT GGTCCCGACGAACTCGGGGGGGCGCGCGCGACAGGAGGGTCCCCCGGGGAAAGGAAAC GTACCCGGCTTGGCGGCCCGGCGCCCGCCATGAGGTAGTGACGGAGCTGGGC CCGGAGGAGGTACGCTGGTTCTACAAGGAGGACAAGAAGACCTGGAAGCCCTTCATCGGCT ACGACTCGCTCCGCATCGAGCTCGCCTTCCGGACCCTGCTGCAGACCACGGGTGCCCGGC CCCAGGGCGGGACCGGGCGACCATGTGTGCTCCCCCACGGGCCCAGCCTCCAGT TCCGGAGAAGATGACGATGAGGACCGCGCCTGCGGCTTCTGCCAGAGTACGACGGGGCAC GAGGTGGATGTGACCCAAGGAGAGTGCTACCCGGTGTACTGGAACCAGGCTGATAAAATAC CAGTAATGCGTGGACAGTGGTTTATTGACGGCACTTGGCAGCCTCTAGAAGAGGAAGAAAG TAATTTAATTGAGCAAGAACATCTCAATTGTTTTAGGGGCCAGCAGATGCAGGAAAATTTCGA TATTGAAGTGTCAAAATCCATAGATGGAAAAGATGCTGTTCATAGTTTCAAGTTGAGTCGAAA

Table 4

CCATGTGGACTGGCACAGTGTGGATGAAGTATATCTTTATAGTGATGCAACAACATCTAAAAT TGCAAGAACAGTTACCCAAAAACTGGGATTTTCTAAAGCATCAAGTAGTGGTACCAGACTTC ATAGAGGTTATGTAGAAGAAGCCACATTAGAAGACAAGCCATCACAGACTACCCATATTGTA TTTGTTGTGCATGGCATTGGGCAGAAAATGGACCAAGGAAGAATTATCAAAAATACAGCTAT GATGAGAGAAGCTGCAAGAAAAATAGAAGAAAGGCATTTTTCCAACCATGCAACACATGTTG AATTTCTGCCTGTTGAGTGGCGGTCAAAACTTACTCTTGATGGAGACACTGTTGATTCCATTA CTCCTGACAAAGTACGAGGTTTAAGGGATATGCTGAACAGCAGTGCAATGGACATAATGTAT TATACTAGTCCACTTTATAGAGATGAACTAGTTAAAGGCCTTCAGCAAGAGCTGAATCGATTG TATTCCCTTTTCTGTTCTCGGAATCCAGACTTTGAAGAAAAAGGGGGGTAAAGTCTCAATAGTA ACGACATCTTCTTGATGAACTCTATATAACAAAACGACGGCTGAAGGAAATAGAAGAACGGC TTCACGGATTGAAAGCATCATCTATGACACAAACACCTGCCTTAAAATTTAAGGTTGAGAATT TCTTCTGTATGGGATCCCCATTAGCAGTTTTCTTGGCGTTGCGTGGCATCCGCCCAGGAAAT ACTGGAAGTCAAGACCATATTTTGCCTAGAGAGATTTGTAACCGGTTACTAAATATTTTTCAT CCTACAGATCCAGTGGCTTATAGATTAGAACCATTAATACTGAAACACTACAGCAACATTTCA CCTGTCCAGATCCACTGGTACAATACTTCAAATCCTTTACCTTATGAACATATGAAGCCAAGC TTTCTCAACCCAGCTAAAGAACCTACCTCAGTTTCAGAGAATGAAGGCATTTCAACCATACCA AGCCCTGTGACCTCACCAGTTTTGTCCCGCCGACACTATGGAGAATCTATAACAAATATAGG CAAAGCAAGCATATTAGGGGCTGCTAGCATTGGAAAGGGACTTGGAGGAATGTTGTTCTCAA GATTTGGACGTTCATCTACAACACAGTCATCTGAAACATCAAAAGACTCAATGGAAGATGAG AAGAAGCCAGTTGCCTCACCTTCTGCTACCACCGTAGGGACACAGACCCTTCCACATAGCA GGCCTTGTGGAGAGCCGCTATTGGTCAGCTGTCACGTCGCATACTGCCTATTGGTCATCCTT GGATGTTGCCCTTTTTCTTTTAACCTTCATGTATAAACATGAGCACGATGATGATGCAAAACC CGTTAAAATGTGTGTGTCAAGATACGGAGATTTCAGGGTTAAAGTATATTTCAGTTTTCTTTA AAAAAAAAAAAGGAAGGCCGCTAGACTAGTCTAGAGAAAAAACCTCCCNCACCTCCCCAA **AACCTGAAACATAGNAATGAATAAAGANN** >1122

NNNNCGGTTTTCCGGGCAGGTACGCGGGGGCGGCCGTTCCAGAGGGCGGCGC TTATCTAACACGTGGAATGAAAAGTACAGTTCTTTACAGAAAACACCTGTTTGGAAAGGCAG GAATACAAGCTCTGCTGTGGAAATGCCTTTCAGAAATTCAAAACGAAGTCGACTTTTTTCTGA TGAAGATGATAGGCAAATAAATACAAGGTCACCTAAAAGAAACCAGAGGGTTGCAATGGTTC CACAGAAATTTACAGCAACAATGTCAACACCAGATAAGAAAGCTTCACAGAAGATTGGTTTTC GATTACGTAATCTGCTCAAGCTTCCTAAAGCACATAAATGGTGTATATACGAGTGGTTCTATT CAAATATAGATAAACCACTTTTTGAAGGTGATAATGACTTCTGTGTATGTCTAAAGGAATCTTT TCCTAATTTGAAAACAAGAAAGTTAACAAGAGTAGAATGGGGAAAAATTCGGCGGCTTATGG GAAAACCACGGAGATGTTCTTCTGCATTTTTTGAGGAAGAGAGATCAGCATTAAAACAGAAA CGGCAGAAAATAAGGCTCTTACAACAAAGGAAAGTTGCAGATGTTTCACAATTCAAAGATCT CCCAGATGAAATTCCTTTGCCTCTGGTTATTGGAACGAAAGTTACAGCACGATTACGTGGTG TTCATGATGGTTTGTTCACTGGACAAATAGATGCTGTGGATACTCTTAATGCTACTTATAGAG TAACTTTTGATAGGACAGGGCTTGGAACCCATACCATCCCTGACTATGAAGTTCTCAGTAAT GAACCTCATGAGACAATGCCAATTGCTGCCTTGGGACAAAAACAGCGGCCTTCTCGATTTTT TATGACCCCACCACGGTTACATTATACTCCTCCTCCCAGTCACCAATTATAGATAATGATCC TTTATTAGGACAGTCGCCGTGGAGAAGTAAAATTTCTGGCTCTGACACTGAAACATTAGGTG GTTTTCCAGTAGAATTTCTTATCCAAGTGACCAGATTATCAAAAAATTCTCATGATTCACCAAG GAACATATCAAGAACATCAGGGACATGAACACAGAAGCAGAAACACTGGCAATCATATTGCA TGCCAGTCAGCATTGGATTCACGCGGAGATTTGCGACAATCGGTCTCGGGGACTTGAACAG **GTGAACACAGGGCCTAAACACAGTTTGGGTAACGGTCACCGGATTGCTATGAGATTGTCCC** AACACGGGGGTCCAGCTGAGAGATCAGCGAAGGTATTAACCCGTGTGTAGCGGCGAAACAC CCGGCACAGTGTCCGCGCGACATCCTCAGCGGAGAACCCGTCTTTACAGGGGCACTGGGC GACAGCAATTCAGATCGCGACTGGTGACCAATTGTGCCAGCGGACGCCCCTGAGCAACCAA

CTCAGAGTAACGAAACATGATCACGAGCACTAACAAACGATAAGTGAAGCGAACGGCCCACGGCTGCAACGACTGCTTCCTCATCATCATCATTATGAN
>1123

ggaagaggacataagcagctctatgaccaatagcacagctgccagtagacccccggtcaccctgaggctggtggtccctg ctagtcagtgtggctctctctattgqaaaaggTGGATGCAAGATCAAGGAAATACGAGAGAGTACAGGGGCT GCATTCCACATCCATCATTGAGTGTGTCAAACAGATCTGCGTGGTCATGTTGGAGTCCCCC CCGAAGGGCGTGACCATCCCGTACCGGCCCAAGCCGTCCAGCTCTCCGGTCATCTTTGCAG GTGGTCAGGACAGGTACAGCACAGGCAGCGACAGTGctgAGCTTTCCCCACACCACCCCGTC CATGTGCCTCAACCCTGACCTGGAGGGGCCCCCTCTAGAGTTGACCAAGCTGCACCAGTTG GCAATGCAACAGTCTCATTTTCCCATGACGCATGGCAACACCGGATTCAGTGGCATTGAATC CAGCTCTCCAGAGGTGAAAGGCTATTGGGCAGGTTTGGATGCATCTGCTCAGACTACTTCTC ATGAACTCACCATTCCAAACGATTTGATTGGCTGCATAATCGGGCGTCAAGGCGCCAAAATC AATGAGATCCGTCAGATGTCTGGGGCGCAGATCAAAATTGCGAACCCAGTGGAAGGATCTA CTGATAGGCAGGTTACCATCACTGGATCTGCTGCCAGCATTAGCCTGGCTCAATATCTAATC AATGTCAGGCTTTCCTCGGAGACGGGTGGCATGGGGAGCAGCTAGAACAATGCAGATTCAT CCATAATCCCTTTCTGCTGTTCACCACCACCATGATCCATCTGTGTAGTTTCTGAACAGTCA GCGATTCCAGGTTTTAAATAGTTTGTAAATTTTCAGTTTCTACACACTTTATCATCCACTCGTG ATTTTTAATTAAAGCGTTTTAATTCCTTTCTCTGTTCAGCTGTTGATGCTGAGATCCATATTTA CTGTTTGTCATGGAAATGTAAGAGTGGAATATTAATACATTTCAGTTTAGTTCTGTAATGTCAG GAATTTTTCAAAAAATTAAAAGATGGACTGGAGCTTTTTCTTTGTGAATAGAAACTGGATGC CACAGTGATTCATGTGGGTTTTATTCCTCTTGTCTTGCTGTTATTTTTGTACCTTTTATCCCTC AAAGGACCCTTCTTGGGTTTTGAATGGAAGCCTTTATTCCGGTTAAGATGTTTTCTTCTATTTT CCTTATAAAACTTGTGCCCAAAAGATTGAGGATTAGACTTTCCGAGGACTTACCTGTCCTAG GGGAGTAGGCAAGCACTTCCACTAGGGAGGGGGTGGGGGAAAGGAATGACACATGACATA CATGGCATACACATTAAGCAGTTGATCATATGTCTGACTGGGTTCCAGTTTCTTGGGAATGTT GGTCCCCTTGTTCAGGCTTGCATATTTTAAACTAAAAATTTCAGTCTATTGTTTTTAGTAACTT CATTTATAGTCCTCCATAACAAGTTAGAAGGATGTATCTGCTACCATTTATTCCTATAATTTTA GAAAGTTGGGGCTTGACATTATACTCATTTAGTGAGAGTAGATGCAAAAAAGTGGAGGGGCA GGAGAACTTCTCCAGACACCTCAGATAAAGTCCGGAGCCCAAGGCTTTATCTTAACCATGTA TGGT

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ACATTCTGCTCCACAAGGTAAGAAAAACTGCTCTTTGGCTCTATTTTCAAAATTACTTCTGAG ATGCATATAGTCTCAAAATAACAGCTTTAGTAGGCATATCACTTCTTGAAAGCCAAACATGAG TGTAAGACACTTTTATGAAACACGGTGGATCCCTAACTGGCTTTCAAATTGACCTTTATAGCC TTAGACACCCTTAGGTATTTACGGAGATGACTTCTTTGATTGTCATAACAATTAGTGGATGT GTCCAGTTCTCTGTATCTTTGACTTGATGCTTTATACATCATTTCATTTGTTGCTTCTAAGGGA ATAAGCCATAGAGGCTTCTCCAGGTTTAAAAGAACAGTAAAGTACCTGGAAAACCAACATTTT TGAATGTATGGACACTGGACATGAGATATGTACAATGAAATCTTAAAAGAATCTAAGAATTTG CCCTCTTTGCCCCACTCCACCCAGTAATTTGACATTACTAGTGCCATGTATAGGACCCAACT GAGTATTAGAATCAGTTTTGACTATGTCTTTGTATTTCCTAAATCTTTTAATGCATAAACCGAA GGCGAGTTTGCAATGTGATAATCAGATTTTTTAAAACTGATTAATTTGCTTTCTTGTGTGGGT GTACTCACATTTTAAAGTATGAACCACAGTTAACTAGTGGTCTCAGGGGTAGTGAAACACTCA TGGCATAACAAAACTGTTAATGATTGTTGATTACACTTTTAAGTGAATTTGTCTTTTATGAGGA **ACCCAGTGCAAGTCACTAAATATTGTCTAATAGTGACATCTGCATAAGACTTGTAATAGCTGA** AGTTAATTGAGCTTAAAGGAATTGTTACCATTAAAGTCTGTG

GCGTCCGGAATGGTAAGTATATACCTCTTATAAAATCTTCGAATGGCTTCCTCTTCT TGGACTGAAAAATGTCCATTTTCCTACCACCTGCAACATTACTCTTCTCTTGCTTACTCTAGTA CTGCAAACATGGATTCTTTATTGTTCTTTAAACAGACAAGCTCCTGGCTCAGGGCCTTTGCTT TCTTGGTTCCTGTTTTTCCCACATACCTACATGGATCCATCTTTGTCTTTCACCTCCTTTTCA TTTCTGCACAATTGAGTTTTCAATCAGAACTTTCCGACAGCCCGTTTTAACATTGTAAATTCTT TCCATCCCTGGCCTTTTCAATTCCTCCATGCTCTGATTTTCTCCATCGCGCATTTTATCATCT GATATACCAAATATTTTACTTATTTTCTCTACTTTGCTCATGCATTACAATGACATCTCCATGG AGGAAGATGTTTTTGGATTTTTTTTTTAACTGCTGTTATCCTCAGTGCTCAATAGTAGGTACG ACCTTACAGCCATTAGTCCTATAATAATTTAATTTGGGTTTGTGGGTATAGAAACTGTATTTGC ACAATAATGATAAAGCCACTCAGGCTCATCTAGTCATTTCCTGAATTTATGTGTGTAGGAGTA CCACAGAGCACAAAAGATGGGCACCCCCAGCTGCAGCCGACTGTCAGAGGTGCAGGCCTC CCTGCATGGATAGTCCTGGGCCAGCCACACCCCCGAGTTCCACCCTATCAACTCCCTGGAG ACTITITGGTCACATGCACTGCGCCCAGGTGATGCTCTGTATATTTGAGGAAAGACACCCTA ACCCAGTAAATGCAGAAAGCTCTTAGGACAGACAGAAAACCTGCCATGGGGCTGCTTCCCT CCCTCGCAGGGCTGGCGGAGGCTCCGCCTCTCTCCTAGGATACAGAAACCATGGC AACGAAAGTAGAATGTAAAACTCGCAGCAGATATCAGTGGGAAGGGCTGGGGGAGGGGGC ACCCAGCTGCCTTTCCTCCCTCACAGGAGCCACCACCACCACCTCTCAGGAGAAGCCAGA GGCCCTGGCCAAAGATAGGAGGAAGAAAGAGAACTCTCCATAGAATGTAATTTATAGATGCG CTTTTTAAACTCNNNN

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>1132

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>1135 >1136

GTATTAGATAAATGGAATTATGATATATGATATACAAACTTTTTTCTATTTAAAAATATATTA ATGGATCAACTTTAAAATTGTTAGTTGCCAGTGATCTTTTTTGGAAAACAAAAATGGGGCATT TGCTTTCCTCTACTTCTACTTCCTCCCCCACCTTTTTCTGCCCAGTGTAGGTGTATTCTTA AATTCAGACGGGAAGATTCTTTCACATATCACTCAGTTACCTCCCAATCTGGGGGAGTTTTTC TTACAACTTGATACCAGATACCATTAATTTTACATTCCTGAATAAAGGCCTAGTACCCACGCA TTAGGTTTCCATGGGCACTGGTTCTCATAGGTTCTATTGGTGATAACTGCTTTAACATGGAGC AAGAGTTTGTGAATCAGGAAATAGAATAAATTAAAATTTAAAATATATAGAGGAATCCTCTTGA TTGCTCAGCATGATGTTAGATAAATGAGTTTGTCAGAAAATATCAGTATACGCTGTTTACCAA TGTTATTTATTTACATTCTTCTAAAGCCATTATGGATATTGTATTATGAGAGCTAAACCTAAATA AGTTATCCTGTTCCCTAGGACCTTCTCTGTAAATAGTGAATTTTAGACGAGTAGTCTGTCCTA AATCTTAAATAGAAAAAAAACTAAAGCGATTTGCTTAAGCCATTGTACATTATAAAGAGCTGTT TTGTTTTGCTTTGCTTTGTTTTGTTTTTTAAAGCTGCATTCAGAGCCACAAAGGAATA NNNNNNNNNNNNNNNNNNNNNNNNN

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TCTAAAACATGCTAACCTGACCTTTTCCTTCTAATTTGTTTTTAACTTCATTCGAGATA GTACCTCTCACTCACAGATATTTATTTGGTTATCAAGTGAAGATAGGTGTGTCTAAAAGTGAT CTTCTGAATCCTGTCTCCCTAGAGGTACTAGTATCTAGAGTTTACCCAGAAAATTTTATGATT GTAACAAAAGGAAGTAGTGACTTATGAAGGTTTTGTTTCTTGAATTTTACTTTTGCTACTTGTC CAATAGTGGCTAGTTTACATTTATGGGAAATTTTATAGTTTGCATAAACAAAGTATAAACTTAA GGCACAGTGAATAACTATATTGATAAACATAAACTAGCCACTATTGGACAAGTAGCAAAAGTA AAATTCAAGAAACAAAACCTTCATAAGTCACTACTTCCTTTTGTTACAATCATAAAATTTTCTG GGTAAACTCTAGATACTAGTACCTCTAGGGAGACAGGATTCAGAAGATCACTTTTAGACACA AAAAACAAATTAGAAGGAAAAGGTCAGGTTAGCATGTTTTAGAACTATTGGTAAACTATAATT CATGGGACATTATATAATCAAAAGATTAATATTTTAAGCACTAAGTTATAAAGGGTTTACACCC ATGAATAAAAAGATTACCATCACTTACTATGAACCACCATTCCATGAATCCATGTAGCTGAAC ACTCCTAATGAAAAGTTTAATTATCCTTCAACCTGTAGTTGAAGAACTCAGTTCATGTTCATTG **ATATTAAAATTGAAAACTTAATGCTGTTTAGAAGGCTATTAATATAACTATTAATTTCTGAAAG** CTTTGAGTTTCTGAAAAGGCTTTTAAGATCAAAATTTCTGAAACACTCCACACATTCTTCCTCA CCCACATTTAATTATAAATCAATGTTATACTGATAAAAGGTTCTATACACACATTTAGAGATAT TCTCACTCTGTCGCCCAGGCTGGAGTGCAGTGGTGCAATCTTGGCTCACTGCAACCTCCAC CTCCCTGGTTCAAGTGATTCTCCTGGGAGGCAGAGGTCGCAGTGAGCCGAGATCATGCCAC **TATATTCAN**

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ACCAGATTATGGACTCTGCTTCTGGTGTGGGTAGTAGGTGGAGGGTAGCCAGGAGG
GCTTGGGGTGGGTCATCACCTCACATTTGAGATGGGGTTTTATTTTTGCAGATTCATGCATTG
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GCCCGACTATCCCACCCACCTCGGGTCAAACTGATGACAACGGGCAATAACACAGTG
AGGTTTAACCCCAACTTCTACCGCAATGGGAAAGTCTGCTTGAGTATTCTAGGGTAAGAGGA
GACTTTTAAGTAGCCAAGTCGGTTGTTAGCAGATAATTACTCTAGGTCAGCCTTTATCAACCG
GAGTCCCTCATCTGAACTACAGAACACAGAAAATGATTGAGTGACTCTTCTCAAATCTCCTCA
GGATGGTATGTGACTAGTATCATTCTAGATGCAGAGGGGAGAAGTTAATTTATTACAGTGGT
AACCTTTGAGAAGTGGTTCTCTTAAGAGTGTGGCCCTGAGCATCTGGGAACTTGTAGCCGAG
CAGTTTCTGGGGCCCTATCTTAGACCTACAAAAGAAACTCCTGGGTTTGGGGCCAAAAATCTG

Table 4

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NNNCCCTTTTTTTCCCCCCCTTTGGTCCCAGGTGGGTTCCCCCAAAAACCCCCCC TTNTNGGCTATGTAATACTGTCTAATAATTGAGACTTTTAGAATCTAGAGATGATCAGAGTGA TCTTTTGGGCTGGGAATTCATCAGGAACTGGGTCTGTAGGAACCTATTCTCGGGCTTCCCAT GGCCTTTGATCTCCTGTTACGGTCCCTCCACAAACATAACATGAGGCGACTTGTAGAGACTG GGCTACGTGTTCGGCTAATTGCAAAAACAAATTTTTAGTTTTTCCTGGAATCTCAGGTACTGG CACATTTAGTTCATCATAGAAAGTCTGAAAATACTGGTTCTGGAGAGCGTTTTTGAACCTCTCC TTTTATTAGGATGCTTACACTAGGATCTAGTCCTTTTCCATCAATGCCTAATGATACATATTTT CCTTTATTACATTTGGGTCTGAGGGGTTTGTGATTATCAATTCTAAAAGGTTGCAGCTCCCAC TCGTGCAGGAGGGCTGACTTTTCCTTTTTGGAGCCAAACAGGATCTTTTTTATCTTCTGTTC AAGTAGCCCAAATGACACAAGACCAGTATTGACACATCTCACATAAATATGATTCTTGACAGA TATACTTATTTTTTTCTGTGTAACTTTTTTCCAATTTAGAGAACCGCATCCTATCCATGCTG CTTACTATCAATAGTGGCACAAGCGTCAAATTTTAAGGTTACATTTTTGGGACCCCTTTTTCTT CTGTTCTAGCTATTACTTTACTTGTGTCACCTAGAAAAGGACCAGTCCTTAGTCCTACTTCAA AGACTGTGATCATGGGAGGTTCAAAGGGGTCATAGCACACATCGGGCTGGTCACTTCCTGG ATTACATACTTTATACTGAGTGTTATTATACAAACAGGTTCCTTTTGGAGTTCCTAGGCATTCA TAATAACTATAAAATAATAGGACTGTAGCAATCTTTTGTCCTACCTCAGTGACTTGATGTATAT ACTGGAAACAGTCTCAGTCTGAGGAAGGTCAGTTGAAGTCCTTACTGTACAAGTCCAAATTT TAAGGAAAATGAGTCCCGCGATGAGTTTCCTCATGCTTCAGCTGTGCGTGGACCAGTCAGCT TCCGGGTGTGACTGGAGCAGGGCTTGTCGTCTTCTTCAGAGTCACTTTGCAGGGGTTGGTG AAGCTGCTCCCATCCACATACAGCTCGCAGTCTACTGATGTTTAAGGTTGGTCTCGGAGGTT

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GGAGTCGACCCACGCGTCCGCGGACGCGTCGTTTCTGCTGACTCCAGTGTCCCGA GAGGCGCCGCTTCTCCGCTTTCTCGTCAGGCTCCTGCGCCCCAGGCATGAACCAAGGTTT CTGAACTACTGGGCGGAGCCAACGTCTCTTCTTTCTCCCGCTCTGGCGGAGGCTTTGTCG CTGCGGGCTGGGCCCAGGGTGTCCCCCATGGCGGGGCCGCGGGTGGAGGTCGATGGCA GCATCATGGAAGGGGGCGGCCAGATCCTGAGAGTCTCTACGGCCTTGAGCTGTCTCCTAGG CCTCCCCTTGCGGGTGCAGAAGATCCGAGCCGGCCGGAGCACGCCAGGCCTGAGGCCTCA ACATTTATCTGGACTGGAAATGATTCGAGATTTGTGTGATGGGCAACTGGAGGGGGCAGAAA TTGGCTCAACAGAAATAACCTTTACACCAGAGAAGATCAAAGGTGGAATCCACACAGCAGAT **ACCAAGACAGCAGGGAGTGTGTGCCTCTTGATGCAGGTCTCAATGCCGTGTGTTCTCTTTGC** TGCTTCTCCATCAGAACTTCATTTGAAAGGTGGAACTAATGCTGAAATGGCACCACAGATCG **ATTATACAGTGATGGTCTTCAAGCCAATTGTTGAAAAATTTGGTTTCATATTTAATTGTGACAT** TAAAACAAGGGGATATTACCCAAAAGGGGGTGGTGAAGTGATTGTTCGAATGTCACCAGTTA **AACAATTGAACCCTATAAATTTAACTGAGCGTGGCTGTGTGACTAAGATATATGGAAGAGCTT** TCGTTGCTGGTGTTTTGCCATTTAAAGTAGCAAAAGATATGGCAGCGGCAGCAGTTAGATGC **ATCAGAAAGGAGATCCGGGATTTGTATGTTAACATCCAGCCTGTTCAAGAACCTAAAGACCA** TGGATCATCGCTTGGTAAACGAGGTGTAAATGCAGACAAAGTTGGAATTGAAGCTGCCGAAA TGCTATTAGCAAATCTTAGACATGGTGGTACTGTGGATGAGTATCTGCAAGACCAGCTGATT GTTTTCATGGCATTAGCCAATGGAGTTTCCAGAATAAAAACAGGACCAGTTACACTCCATAC GCAAACCGCGATACATTTTGCTGAACAAATAGCAAAGGCTAAATTTATTGTGAAGAAATCAGA AGATGAAGAAGACGCCGCTAAAGATACTTATATTATTGAATGCCAAGGAATTGGGATGACAA ATCCAAATCTATAGAGTATTTGCCTCTTAAATGATACCTCATTGATATATTGCACTATTTCATA **AATACTATAAAATAATGACTAGGAAGTAACTTATTAAAGGCTATGACTTAAATTTGAAGATGAA** GTACAGTGTTCTAGGTTTGCTGAGAAGGCTTCATTAAATTAATCTCACTTTGAATATCTCCTG **AGAGATGGAÇAATGAAATATCAGTTGGTGGATATGTGTGATAGCTGATTTCAATATTGAAGTA GTTTAGAGAAAGAACCTTCCACANN**

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NNNAGATCCCAGAGGCTGAACACCTCGACCTTCTCTGCACAGCAGATGATCCCTGA GCAGCTGAAGACCAGAAAAGCCACTATCCGGAGGCTGAACACCTCGACCTTCTCTGCACAG CAGGTCCAGCATCCTTTGAAGCATGAGTTCTTACCAGCAGAAGCAGACCTTTACCCCACCAC CCCACAACCAAGGAGCCATGCCACTCAAAGGTTCCACAACCTGGAAACACAAAGATTCCAG AGCCAGGCTGTACCAAGGTCCCTGAGCCAGGCTGTACCAAGGTCCCTGAGCCAGGCTGTA CCAAGGTCCCTGAGCCAGGTTGTACCAAGGTCCCTGAGCCAGGCTGTACCAAGGTCCCTGA GCCAGGTTGTACCAAGGTCCCTGAGCCAGGCTACACCAAGGTCCCTGAACCAGGCAGCATC **AAGGTCCCTGACCAAGGCTTCATCAAGTTTCCTGAGCCAGGTGCCATCAAAGTTCCTGAGCA** AGGATACACCAAAGTTCCTGTGCCAGGCTACACAAAGCTACCAGAGCCATGTCCTTCAACG GTCACTCCAGGCCCAGCTCAGCAGAAGACCAAGCAGAAGTAATTTGGTGCACAGACAAGCC CTTGAGAAGCCAACCACCAGATGCTGGACACCCTCTTCCCATCTGTTTCTGTGTCTTAATTGT CTGTAGACCTTGTAATCAGTACATTCTCACCCCAAGCCATAGTCTCTCTTATTTGTATCCT AAAAATACGTACTATAAAGCTTTTGTTCACACACACTCTGAAGAATCCTGTAAGCCCCTGAAT TAAGCAGAAAGTCTTCATGGCTTTTCTGGTCTTCGGCTGCTCAGGGTTCATCTGAAGATTCG

Table 4

AAGTCGACGCGCCGAATTTAGTAGTATCACATTTGGCCCAAACCTCAGGATTCTCCCTCTGCCTGTCTTACTTCATGGT

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acGCGTCCGCCTGTAGCAGATTGGGTTTcaaaaagttcGGATGTAAACATTGACATCCAG TTTCCAGCCATTATGTCTCAGCCAGATGTCCTCTTACTTGTTCAAGAATGTTTAAAGAACAGT GACTCCTTTATTGATGTTGATGCAGACTTCCATGCTAGGGTGCCAGTGGTGGTGCAGAGA. AAAGCAAAGTGGTCTTCTGTGTAAAGTGAGCGCAGGAAATGAAAATGCTTGTCTGACAACAA AGCATTTAACTGCCCTTGGAAAACTAGAACCAAAGCTGGTTCCTTTGGTGATTGCATTTAGGT ACTGGGCAAAGCTTTGCAGTATAGATCGCCCTGAAGAAGGAGGTCTGCCACCTTATGTGTTT GCCCTGATGGCCATTTTCTTCAGCAGAGGAAAGAACCCCTTTTGCCTGTATATCTAGG ATCATGGATTGAAGGATTCTCATTAAGCAAACTAGGGAATTTCAACCTTCAAGACATTGAAAA AGATGTTGTGATCTGGGAACATACTGACAGTGCTGCAGGGGACACAGGCATAACAAAAGAA GAGGCACCAAGAGAAACGCCGATTAAAAGGGGACAGGTGTCATTAATATTGGATGTGAAAC ACCAGCCTTCAGTACCAGTTGGGCAGCTCTGGGTGGAATTGCTGCGGTTCTATGCTTTAGAA TTTAATTTGGCTGATTTAGTGATAAGTATTCGTGTCAAAGAATTGGTATCTCGGGAATTGAAG GATTGGCCCAAAAAGCGCATTGCCATTGAAGATCCCTACTCTGTTAAAAGAAATGTGGCAAG AACCCTAAATAGTCAACCTGTGTTTGAATATATACTTCATTGTTTAAGGACAACATACAAGTAT TTTGCTCTTCCACACAAATTACAAAATCCAGCCTTCTAAAGCCTCTGAATGCAATTACATGT CTCAAAAACTCAGTTTTGGCCCAAGGTCCTGGTGCTACCAGTTCAGCTGCAAATACCTGTAA GGTACAGCCACTTACTCTTAAAGAGACTGCTGAAAGTTTTGGAAGCCCACCAAAAGAAGAAA TGGGAAATGAACACATCAGTGTCCACCCTGAAAACTCAGACTGTATCCAAGCAGATGTTAAC TCTGATGATTACAAGGGTGATAAAGTATACCATCCAGAAACAGGAAAGGAAAAACGAGAAAGA GAAAGTTGGAAGGAAGGCAAGCATCTGTTGACTGTTGATCAGAAACGTGGAGAGCATGTT GTCTGTGGCAGCACACGTAATAATGAGTCAGAGAGCACTTTGGATTTAGAAGGCTTCCAAAA TCCCACAGCTAAAGAGTGTGAGGGACTTGCCACTTTAGATAACAAGGCTGATCTTGATGGAG AAAGTACAGAAGGTACTGAGGAACTAGAAGACTCTCTAAACCACTTTACCCACTCAGTACAG GGCCAGACATCAGAAATGATTCCCTCTGATGAAGAGGAGGAGGACGACGAAGAAGAGGGG GAGGAAGAACCTAGGCTCACCATTAACCAAAGGGAAGATGAAGATGGCATGGCTAATG AAGATGAGTTAGACAACACCTACACTGGGTCAGGGGATGAGGACGCCCTATCTGAAGAGGA TGATGAGTTAGGCGAAGCTGCTAAGTATGAAGACGTGAAAGAATGTGGAAAACATGTAGAAA CACCTGTGGATCAGTCTGATTTTTTTATGAATTCAGTAAACTTATCTTCACCAAAGGCAAGT CTCCTACGGTAGTGTGCAGCTTATGCAAACGAGGGGTCATCTAAAGAAGGACTGTCCTGAA GACTTCAAAAGAATCCAGCTAGAACCTCTGCCACCATTAACACCCAAGTTTTTAAATATCTTA GATCAAGTCTGTATCCAGTGTTATAAGGATTTTTCTCCAACAATTATAGAAGATCAGGCTCGT GAACATATTCGGCAAAACCTAGAAAGTTTCATAAGACAGGACTTTCCAGGAACTAAATTGAG CCTGTTTGGCTCCTCCAAAAATGGATTTGGGTTCAAACAGAGTGACCTTGACGTCTGTATGA CAATTAATGGACTTGAAACTGCTGAGGGATTGGACTGTCAGAACTATTGAAGAATTAGCA AGAGTCCTCAGAAAACATTCAGGTCTGAGAAACATCTTACCTATTACAACAGCAAAGGTGCC AATTGTGAAGTTCTTCCATTTGAGAAGTGGTCTGGAAGTAGATATCAGTTTGTATAACACATT

Table 4

GGCCCTTCATAACACAAGGCTTTTATCTGCTTATTCCGCCATTGATCCCAGAGTGAAGTATTT GTGCTATACCATGAAAGTATTTACAAAGATGTGTGATATTGGTGATGCATCTAGAGGCAGCTT **ATCATCGTATGCATATACTCTTATGGTGCTATATTTTCTCCAGCAGAGGAATCCACCAGTCAT** TCCTGTCCTTCAAGAGATATACAAAGGTGAAAAGAAACCTGAAATATTTGTTGATGGCTGGAA TATTTATTTTTTGATCAAATAGATGAACTGCCTACCTATTGGTCAGAATGTGGAAAAAATACA GAATCTGTTGGGCAGTTATGGTTGGGCCTTCTTCGTTTCTACACAGAGGAATTTGATTTTAAA GAACATGTTATTAGCATCAGGAGAAAAAGTCTGCTTACAACTTTTAAGAAACAGTGGACCTCA **AAATACATTGTTATTGAAGATCCCTTTGATTTGAATCATAATCTTGGAGCTGGATTATCAAGGA** AAATGACAAATTTTATAATGAAGGCTTTTATCAATGGTAGAAGAGTATTTGGTATTCCTGTCAA GGGATTTCCAAAGGACTACCCCTCAAAAATGGAATACTTTTTTGATCCAGATGTGTTAACTGA AGGAGAGCTGGCCCCAAATGATAGATGTTGTCGAATTTGTGGAAAAATCGGACACTTCATGA AGGACTGTCCTATGAGGAGAAAAGTAAGACGGCGGCGAGATCAGGAAGATGCCCTGAACCA AAGATACCCTGAGAACAAGGAAAAAAGAAGCAAAGAGGACAAAGAAATTCACAACAAGTACA CAGAAAGGGAGGTGTCAACAAAAGAAGATAAGCCCATACAGTGCACACCTCAGAAAGCCAA GCCAATGCGGCCACCTGACCTGGGGAGGGAGAAGATCCTCAGGCCACCAGTAGAAAA ATGGAAGACAGGATGACAAAGACTTAAGAGAAAAACGTTGTTTTATTTGTGGAAGAAGAG GGCACATTAAAAAGGAATGCCCACAGTTTAAAGGCTCTTCAGGTAGCCTTTCCAGTAAATATA CAGCACTCTAAATGGCCACTCAGGCGTTCCTATTCACTCGGAAAATTAGGTTCATTTCACAG TTTAATGAAATTGTTAATGAGGAAAAATTTTTAATATAGTCTTATCTACCACACATCCCCATAG **ATTTAAGGATTTTAATAGAAAGTCATGATGTATGTATTTAAGCCACGTTAAAAGAAAAAAATATA ACTATGGACCGGTATTCAGTGAATACAGTTTCATGGTTTTTAATTCTTTCAAAGCACATTAAAA** ATGGTGTGCTGATAAACCCCAAGTAAATTAACCCTTTTTCCGTATAAATCCATTTTTTGTTTTG **AAGAGGGGAAATTATATTATTGTTGTTTACTGAATCCTGGTGTGAAAGCATATCAGATATGT** ATGAACTGCTACTGCTGTACTTCCGATTTACGGACATCATTTTATTGCTATTTGTAGACGTGA TAACATGAACATGAGTACCTATTTATGTGGGCCTTCAGTGGATGGGCAGTGCCACTCAGGTC TCTGGGGTTTCCCTCTAATTTTAAGTAAATTGACATATAACTACTATGCTTATAAAAATGAA GTACTTTTTACTTTTTATGATACTCAGAAATTAGGATGAAGAACTTTTAAAATTGCTGAAGATC **AAAGAGGTTATCTCTGCCAGTCACAAGTGTGGCTGGTGTCATTCTGGGTCTGACTGGAGCC** CTCCTGGACTGTTTCTTTAATTTCAAAAGCCCTGCAGACATAGTACCTGGTCAGAACTATGCC

GCGTCCGAAAAAAAAAGTCCTAAAAATGGAAAGCCTTCGAATGGTTTATAAACAAG GCAGTGCCTTGATCTGATTTGTGTTATAAAAATTTCAGTCTGGCTGCAATGTGGATAATAGTT TGGAATGGGGAAGAGATGTTGGGAAGCTAACTCTCCTAGCAAGAATGATAGAATAGCTT **ACAGTAGGGTAGTGGCAGTAGTGGAGGAGATGGAATAATGGAGATTCAGGGGCTTGAATTT GTTAACCATTTAGTTCAACAATATTTATTGATTGGCTTCTCTGTTGTGAGCATATCTCGGAGA** GGAAGAAAACAAGCCAGGATAATCCCCAGGTTTCTGGTGTATAAATGTTGGTACTACTCTG CGATGGAATGGAAAAAGACTTGAGGCCCTGAGAACTGAACCATGATTAGGAGCCTTGGAAC AGTAGCAGTTGTCATCTGTGTAAATAAGGTTATTGATTTCTAAAAGGTCTATGTTTAATCAGAT GGATTAGTCATTCTGTCTTTCACACCTGTGGTGACTAATTCAAAGGAAAAGCCCTATCATTTT GCCAGCTGGTGTTAAGAGTTGCTTTGTTTTCTGTGAAACCAGGTGTACTGCATTAGAAAAGT TTATTCAACTTTAATCATTAAGCATTGTGATAAATTGTAAACTTAGAAATTGTTTGGTTTACTG TATTAAAAATGTTGGATTCCTGTAATTCCAGCATTTTGGGAGGCTGAGGTGGGAGGATTGCT TGAGTTCAAGAGTTCAAGACCAGTCTGGGCAACATGGTAGGACCCCATCTCTACAAAAAGGA AAAAACAATTTGGCCTGGGAGTGCACGCTTGTGGTCCCAGCTACCCAGGAAGTTAAGGTGG GAGGTTTACTTGAGCCCAGAAGGTTGAGGCTGTGATGAGCCATGATCGTTTCATTGCACTCT **AGCCTGGGCAACAGAGTGAGACCCTGTCNNNNNN**

>1170 >1171

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ACCAAAGGAGTTAAAACAAGATAAACCAAAACCTAACTTGAACAATCTCCGGAAAGAAGAAAT CCCAGTACAAGAGAAAACCCCTAAAAAAAGGATGGCTTTAGATGACAAGCTCTACCAGAGAG ACTTAGAAGTTGCACTAGCTTTATCAGTGAAGGAACTTCCAACAGTCACCACTAATGTGCAG AACTCTCAAGATAAAAGCATTGAAAAACATGGCAGTAGTAAAATAGAAACAATGAATAAGTCT CCTCATATCTCTAATTGCAGTGTAGCCAGTGATTATTTAGATTTGGATAAGATTACTGTGGAA GATGATGTTGGTGGTGTTCAAGGGAAAAGAAAGCAGCATCTAAAGCTGCAGCACAGCAGA GGAAGATTCTTCTGGAAGGCAGTGATGGTGATAGTGCTAATGACACTGAACCAGACTTTGCA CCTGGTGAAGATTCTGAGGATGATTCTGATTTTTGTGAGAGTGAGGGATAATGACGAAGACTT AGAAAAGAAAGAGAAGAAATCTAAATCCAAATGTAATGCTTTGGTGACTTCGGTGGACTCTG CTCCAGCTGCCGTCAAATCAGAATCTCAGTCCTTGCCAAAAAAGGTTTCTCTGTCTTCAGATA CCACTAGGAAACCATTAGAAATACGCAGTCCTTCAGCTGAAAGCAAGAAACCTAAATGGGTC CCACCAGCGGCATCTGGAGGTAGCAGAAGTAGCAGCAGCCCACTGGTGGTAGTGTCTGTG **AAGTCTCCCAATCAGAGTCTCCGCCTTGGCTTGTCCAGATTAGCACGAGTTAAACCTTTGCA** CTTTACAAGGGTGTTTATATTTGATTTGTGTTTATATTTGAGGCAGGTATTGTAATATAAAGGA **ATCCATTACCATGTCCTATAAATGACCTCTAGCCATTTTATGATTATGTTCTCTGTAAAACTCT** TCAAGACTTCAATGAGAAGTTTGTTTATAAGAATTATCTTCTCATACCTTTCCTTGTGAAGAGC GTATTCTGTTTTCTATCAGTTCGACATGAAGTCCACATCACATGCTGTTCTTTTCTAGTTACA TGATGTGCCTTTCTAGCTTTGTCTAGTTTATAGCACCTTAACTTTAACTGTTCAGTTTTATCTG GCAGAGGAAAACATTCTTATTTCTTTCAGAAGACATTTCTGAAATCTTATAAGCTACTTAAGCT ACGTTGTCAGTTTTATCGCAAAGATGTTTTGTATTTTAGCCAAATCTTTTTATAGTACAAACTT **AGAATTATTTTACACACTAAAATGGTTGCAGTTTTATGGCATATGTCTCCGATTTAGATGGTTA** TTCTCTAGAAAATAGTATTTAAAGACATTTTATGAAATCTTCATTGTCAAAACCTTTAATAAAAG TGGAAATATTTGAAATGCCCTTTTTCTTGATACCACTCATCCACGTGTTCCTGATTTGTCCAC ATTTCATGATAAAATGAGAGCTCTGCAGAGAATGTTAGCCTTTCTGTGTAAATGTAATCTTCA AGTAGTCACTTTTGTTAAGTTCTTTAGAAAGTAGTTGTCAAGTACTTAGTCATCCCTATTATGA TATGAGATAGTACAGTTTTCAGGAAGCTTAGATCTGAATTATTGTGAAAAACAATGGTATGAA TATTTTATATTTACATGAGAATTAATAGTTCTGATCAATTTTATAAAAAATTTTCAATTCATGTAG GTGTTAAAATGTTATAACTCAGTTTCTGGTTATGACTATCTTTTTAGGGAACTATATTAGAATG GGTAGTGGCTTGTTAAAAAAAAAAAAAAAAAAAAATTGGGCGCGGCCGAAATTAAACGTGGGG GCCGAGAAAGGACGGCGGAACGCATCAGGGTCACAAAGCGGCGCGGAACAGGGGGTCGT TAGCAGCAGCCN

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gaGCTctagAATCATATTTATTTGATTTGCATTACCATTATTGATGACATTTTCACATTTA AAAACTACATAAGATTTTATAATAAATGCAACCACTCTTACCTGCTTAAGCAAATATAAACAAA CACTCCCAGGCCTATTGTTTTTAAGGCTGTATATTTCACTTGATGGAAAAAGTGATGAACAGC AATGACTTCCCAAGAAAAAAGAAAGAAAAGTGGGTGTTACATATTCCTGAAAGCCAGACTCT **AATCACACAGAGGAATTTTATTGTAAGTTACATGCAAAGCAAATTAGTTCTTCAGGAAAATAA** ATAAATAAATGGATCAACTAAGATATACTAAACCTCAAAAAACCCTGAATAAAGATAAAGGTA AAAATGTATTAATAAAAAAAACCCTTAAAATACTTAAGAAAGTATTAAAAATACAAAACGTTAAC TGAGAAAGTCAAAAAATAATTGCTTTATTTCTCTGTTTCATTAGTACTAATTCACAGGATCTTT GTAGGTTTTATCTGAAAGAAGGATATAAAAACTTAAAAGTCAGAGCAGGGAAAGGGGAGTAA TAAATTATTAAGAACAAACTCAGTGAGACTTGACTTCACTTATGATACATGGGTAGAAAGAGC AAACCAGCCTTCTTCTCTCTCTCTCCCAATCTTTGCTCTTGGATTAAGAGGTGTGAATCTCCC ACTTCCTGAGGTGGCATTTAGTGGAGAACAAGAATTACCAGTAGCCCCGGAAGATCTTCTTG TATTTATCCCGCTGACGGGAGAGACAGTACTACATTTTGAGCTTTCTGGGGCTTCTGCTCCT GGAATAGATACCTCAATTGTCCTCTTTGCTCCTTCAGTCCATGCTCTGAGAGGTAACTGAACA GGTGACATTGGTccacgagcctccatactttgtcgattcaattctgcctcgtgccgaattcggcacgagATTCTGCTTTTG TAAAAGCAGTAGTTTGAGATGGACATTGCCTCTTCATTGTATTTCTCATCAATTCATTATTTTT GTGGTTATAGCTTGACAAGCAATTAACTTTAAAATGGTAGATTCCGTAACTTTAAATTGGTAG CTTTCATTTGCTTAAAATTTTTTGGCATATGCAGATAATGTTCTCATCAGTAGTAAGAATCTCA

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NCTGCAGAATTCGCCCTTGAGCGGCCGCCCGGGCAGGTACTTAGGCTTTCATAAAA ATACAGCAGGGCAAGAGGACCAAGATGGAGGCAGTGATCAGGGAATCTCAATGAGGGTGA GACTGCGACAAAGACTTGAAAAAGGTGGAGAAGCAAGCCTTGTGGGTATTTAGGGTAGCAG TAGTCCAGGCAAGGGGAACAACTAGTGCAAAGGCTCTAGGAGGCAATGTGTTTGAAGTGTT TTAAGAACAGTAAGGAGGCTAGTATGGTTAGAACAGAATGAGCAAAGGGGGCAAAGTGGTA GAAGGTGAGATCAAAGAGGTAATGAGGCCATTGTGGAGGCCCATATGGACTATTGGAAGGG CTTTGGCTTTTACTCTAAATGAGGCAAAAACCATTTTAAGCAGAGAGGAGTGATATGACTTGA TTTCTTGTTAAAAGGATTATTCTAGTTGCTGTTACAGAAAAAGATTACAGGGGTGCAAAGAAA ATATGCTGGTTAATTATGATTAGGAGCACTAATAAAGCACAAATCAGGGATTCCCAAAAAGAA TGTTAAAAGGGCAGTCAGCTTTTCCTGTGCCAGAAATCAAAGTCATAGCAGATTTGGGGCAA ATATGTCAAAGTCAAACTTACGCACATCACTACTGAGAAGACAAAGATGAATGTGTGACAGTT TCCTGCCCCCAAGAATCTTTAAGCATTGTGAAGGAAGATTAATATAGCCAAATAACTAGAGTG AAAATGATGTTTGAATTAAATCTTTAAAAGTTTCTCTTATAAATTTTACCAAGCCACATATTGGG AATGGTACCCCAGGCAGAAGGAGTAGAGTAAGCAAGCCAGAAAGGAAATACTATGGTGCTT TTGAGTAACTGCAGTGTGGCTGAAGAATGTGGAAAATGATGAGGATAAAGAGGTGGACAGG GAACTAGGTAAGGGAGGGCTTCCTTTTAAATAATTAGACCTTGTCCTGTGTACATTTAATGGG **ATTITAATCAGGCCATAATGCCAAATTTCTTTACTTCGGAAGGATCTTTATGGTGATGGTTTCA** NNNNNNNNN

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CGCTTGGATGTAGCAATGAAACAAAATGCTTGAGAGGTCTAGTGAATGGCATTCAAAAGGGA CCTCAAAGTGCAGACATATCTTTTTCAAATATGTTACAGGCTGAACTGGCTCTTTGAACACTA TCACTGCTGCTTAAATCCAGGAAGCAGGCTTTAAAAATGCAAAAGGCATACAAGTTGTATTTC TGTGTCACCTGCCCCTCCCCCACCCAAAGCCAAAATGAAGAAAAGACAGAACAAAACAAAA ACAGAAGAATTACAGATGACTTTGGAATCATTTAGGAATCCACTACTTCCAATCAGAATGTTT AGAAAAATACATTAAAGAATCATTTTTTAAAAAACACAAAAGTAATCTTGCTTTCTGAGACTGC TCTTCGGGTATAGAATGAGCTTCCGTGTGGAGTGCGTTTGAACTTTGACCTTAGCTGTGC GAGGTGCAGGCGCTGGGGGAGCTTCAGGCTGTGGTGCGAGTGACCGCAGGGGAGCGT GGGGTGCCCGCTGCCGAGTCAGCCGTTGAGCCCTTAGGTCGCAGTGCGTCCGTGGA TTTTAGTAATGTTCTCATCACTTTGTGACACACTCTGCTTCAGCATCACAGATTTTACAAATGG TTCAAATTCAATGAAAAAGATTCGCCAGAGGCTGAAAACATCAAGACCTCAAAAATATGAATG CTACAAAGTCGGAGCGGACGCgTgg

caAAATGTAAAATAGCCTTTAGGACTGAattagaGtGAAGTTTTTTTGGTTCCAAAGccGT AGACAAAAAGTCTGCCTCATAAAGTTGGTCTCCAAAGATAAATTCCAAAGAAATTTATCCATC TTTAGACACGACACCAGCACATTTTTCTACTGATACGGTTTTACATAGTTAAGGACTAAATAA AAATTGATTATTCAGAATGATTATGTTTATAATTTGTTCTAAGAAACTACACTAAAAAGATTTTT TAAAAAAGCTTCTATATTCTTTAAAATTTTCTTTGTGACCCCCACAACTTTTCAGAGAATATTG TTTACAGCACTGCCTATCACTGTTTCCATACTAAAATAATTATTTTCTCTTTATGCTATAATGAA AGTTAAATTATGCTTAATCAAAATGACTATGGCTATGGGGTGGCACTCATTTAAAATTTTTCAG CAATGAAACTTAAATTTATTACCTTTCTTCTAATGAATATAGAATAAAAGTATTGATACCTTTAA GCATACTAACACAAGAAACTAAAAGCAAAAATTACATATTTAATCTTCAGCTTTTAATAGATTA TATATATTAATATTCCAGGTTTTAAGGAATTAAGTTACATTAACAATAAAAAATATTCCATATAT TCCCTTATAAAAGGTTCTATTAATTCTAAGAGTTCTCAAATGGGCTTCAATAAGAATGATGGG TTTAAAGATGAAGGACATGACACGCTCAAAATTAAGAAAAATGCTGTATTTGAACTTGCAAGG ATAATTGAACACTTTGGTTATAACATACTTAAAAGATTTCTGTTAAAATTTAATTTCCTTGTTTT CAAATTAAAAGGTAGAACAGTCTCCTGAAGGTAATGTAGGTGGGTCCCTTGCTTTTCACTTAC <u>TATAAACTGTGCTAACCAATACATGGAGGTGAAGGGGGATATAAAACACAAATTATTTCATCA</u> CTGAAATAATTAGCTGCTAACATGACTTCTAAAGAACAGGTATAATATAAAACTAAGAACTTAT TTCAAAATATGAATAAAGGCACTAATTACAAATGTACATTTTTTAGACAGTATCTTACAGTTCA TCTCTTGGAGTAAAGAATAATCAGTTTTCACGTTACTGTGACAGGAAAGATTGAGTGAAAACC TAAAAAATACTCTTAAAAAGTCTTACATGAATTTCCTAATCATGAACTTTTCCCAATCAGCACC GTCTACACTGATGCCAATTTCATCTTCAACACATGGCTAACATAAATCATTTCTAATCCAAAAC TAACCAAATATTTTTTAAAGGATTTACAAAATAAATTGTATTTTAAAAATTAAATAGCAAATTTG <u>AGTCTATACTAGTAGTTGGCAAAATACAATCAACTATTAAAAACACTTTTAATATAATGCTGAT</u> GATACAAGAAGGCAGATAGTCATTTCATAAGAACAAATACAGGAGTACTAAGTATGCTTTTTC TCAGGACAGACTTAGGGAAACTACCCTCAGTACTTACGGTAAACAACACAACCAAGCAGAAA CAAACCATCCATATCGATTTATGTCTGCTTTTCGCTCATGTTCTTGATTATGGGTTATATTAAA <u>AACTAAGTTAAACTACACTTATCCTCTACTTGATACAGAATCACTAAGAAAACGGCTTAAAAC</u> AAAGTTAAACAACTACTTTCCAAAGCCCAGAAAGCTTTCCTTTGGCCACTGTTCAGTTCAAGG GTGTGCTCCAACTAAAGATAAATCAGAAAAATGTTACCACATTCGACTAAATTAACTTGACTA AATATAATAAACCAAGCACACCTGAAAAAAGAGCAAAATTTAAATCAACTTACAAAAATATTAA <u>AATTAAAATACCAATTTTGAACACATATTTTGATATTATGAACTTTGTATCTTTTTTATCAAAATT</u> AAAAAGTACTGCAAAAATGAAGTATTATTCTCTAAGTATTCATTTTATCCCTTTCATTTCAGCA AAATCACACATTTGAATAAACAGGATCGAAATACGACACTTGTCTTTCCTCTTAATTTAAGGAA TATATTGTTTAGATTATTGTTCATATTAGACAACTGCCTCAAAAATGTTTTAATGCCATCCAAT AAATAAACTTTTGATAGATTATGACTTTTTTTAATTTTAAGTTGTTAAGAATATTAACTTTGAGT CTCCTATTAATATTCTAAAAGCTAGGATTCAATTCAGCAGTTTCCTATAACATTTTAGAACCCA

Table 4

CTTCAAATTTTAAGAAACAAAATGGACTGTTCATACTTCGGCTTCAGCTACTGCCCAAAGCAG GATGCTAAAATATATTCCAATTGTCTTATTTTTAGTGCTGGTATGATTTACTAACTTCTGATAG TTTTATATGCATTGAATAATGTGATATTCTTAAAATAACAGATTTATTCAAGAATATTTAACATC AGAGTGGACTTGATTCCTTTAGATAAATAAACAGCCTACTTAATTTCCATGCAAATAACAACTT AAACATTATTCCATGACTCAACAGTAATGTGGGGGAAAGTTAAAAGGCAAGTACTCATGATGT AGAATTGAAAGCAATTGGTCATTAAGGTTATAAGAATATTTCAGAAGACATCACGCATATGAC AAACATTTCTTACAAGGCAGTCACTGATTAATTAGAATAAACAGAAGAATTGTTGCTGAAAAC ATCTTTTATGTTCCAGTTCAGCTGCACTTGATTCAAGTGTTGCTCTCAGAGGTTTGTGTTGTT ATAAATTAAACATGCTGCTGCCTTAGCAGCCAAAGGTACTAGGAAAAAATGTTCATGTCACAG AATAAATAGAGCAGTCTCTTTCAAGCAAAAAAGTTATCTCACACCAATCCGGGAGGTCATCCA CTCTAGACCTTGGCATAACCCTTCTCCTGTGAGAGCACAGCAGGATTGAATGTGCCATGGAT GATECTTAATTGAACTAAGGGTGAGGTATTTCGAGATTTCAGCTGCTGTCATACACCCTTTCA TATCCTGTTTATTTGCAAAGATAAGGACTGCAGCCTTCCGTAAATCCTCATGAGCCAACATTC TGTATAATTCTTCTTTTGTAATAGCTAGTCGTTCCCTGTCAATGCTATCAACAACAACAAGAATGAT GAACTCTGTATTTGAGTAATATGTGTTCCAGGATGATCGCAGAGACTCCTGACCACCAATAT CCCACATAAGAAAATGAGTGTTCTTCACAACTATTTCTTCAACATTGCTTCCTATGGTTGGAG AAGTATGAACCACTTCATTCATTAAGAATTGGTAAAGAATGGTGGTTTTCCCTGCATTATCCA **GTCCCACTATAATTACTTTGTGTTCTTGGTTACAGAAGAGGCTCCACAGTTTGGCGAAGATCA** GCCCATCACGAGCACCGGGGCGGGCCGCGGGGTCCCTCGGCAGCAGGTGCCGCTGCGC CGGGTCCCCACCGCGCCGGGCTGCGCGGAGCCGAGGAGAACCCGCCTGAGATCGCG CAGCGAGGGCACTGCTAGGCCGAGAAGCCTCGACCCGACCACTCAGAAGGCGCCGCGAC GAATCCCCACCGGACAGCCCTTTGTTTCGAGCCCACTGAGCCCAACGCCGACCCGTAGTCC CCTCGGTCTGTACCCACCTACCCGGACGC >1186

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GCGTCCGAAAAAAAAGTCCTAAAAATGGAAAGCCTTCGAATGGTTTATAAACAAG GCAGTGCCTTGATCTGATTTGTGTTATAAAAATTTCAGTCTGGCTGCAATGTGGATAATAGTT TGGAATGGGGAAGAAGATGTTGGGAAGCTAACTCTCCTAGCAAGAATGATAGAATAGCTT

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aatattaGATGAAGTTtctcAaAcattccttgaGaCATggcaggacAGcgccaGGGATccTccttcAgGAA GAAACTAGATTTTACATTGGTACTAATTCAATCAAAATATTTAAAACATTTTTAATATGGAAACT GAGGCTTTTTCACTCTAAGAATCTGCCTCCAAATTCAAGCTGAAGATTTGGATACACTGTGAT TCTGAATAAACAGTCAAGAAACACAACATCAAACAATAAAAGCTTTTAGCCAAATGTACAGTA CTGCATTATAACAAGATGAAAAATAAATACTTGGTTAATCTGCTTATTTCATGCAAATTTGTCA GTAGGTGACCGTTATACCTTGCCTTCAGCTGAATTTAGAATTCTCTCTATATTTTTAAGATGTC **AGTCACCAAAGTAAATAAAGCCATTCTATAACATAAACTGTTAGGTCTATATTTTTTACTGCAC ATCCTAAGGACACAGCAGAAATGGTGGTTGGGAGGCCTTCCACATTTTTTGGATGCTAATAGA** ACAGGCAATAGGCAGTTATAAATGGATACATTTCACGCTGGGGGAAAAAAGACAATTTAAGG AAGTGAGCAGTTTCTGAGCAGGAATGTGGTACAGTATTAAGAATGGAAGAATAATACAATAA **AATTCCACACTATATTAAGATAGAAAAAGTAGTGAAGAAAATATCATACCTGCACATAATGCA** TATATAACACAGGAGAAAACCTGTATAAAATTCCATGTATTTAAACCAATTTACAAATACAAAA AATTCTGTCCAAGCTCTGAGcctggTACACGACAAACGTTTACAGTGGATACATGTTAAGGAAA gtgtataata

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NNNNNCTGGCCTGTCTCCTTCTTATTGTATTGGCGAGTCTGGGCATTTATGGAACGC
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GACAGAGCAAGACCCCATCTCTTAAAAAGAAAAAAAAAGAGGATCCCATTTCATATTCATCAGA
TTGGTAAAAATAAAAAAAAATCTGACAAAGCCAAGTCTTGATGAGATATGGAGTACCAGAAGC
TAATCCCCACCGGGGTTGGTTTAAATAGGGACTAACTACTTTGGAGGACATGGAAGATACCT

CAAGTTTAAATGCTTATAACCCAAGGCTCAGCAATATTCTAGTTAATACTCTAGAGGAATGCT
TGCACAGTGCCCAAGAAGGTATTAAAAGAATGTTTATTCAGGTGTTATTTGTCATAGTGAAAT
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TAACAGTATAGCATACGGCAGAGAAATGAGTGAACTAGAGCTACATGAATAAATCTCAAAAC
GAATGTTAAGACAAACAAGGCCGGTTGCGGTGGCTCACTCCTGTAATCCCAGTACTTTGGGA
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ACGCGGGGATAGTTGAAATGGAGGGCGGGGAAGTCAGGCAGTGGTTTCTGAAAGC CAAGAACTTAGTAGCACTGTGCCATTCTCTTGCCTGATCCAGTGCCATTCCCTTCACTTGATA TCTGTTTACTTTAGAGGAGGCAGTTTTTGAGAAAGGATCATAAATATCCTGGCCCAGTGCCC CAGGAGCTATGACAAGCAAAGGAACATACTTGCCTGGAGATAGCCTTTGCGATATTTAAATG TCCGTGGATACAGAAATCTCTGCAGGCAAGTTGCTCCAGAGCATATTGCAGGACAAGCCTGT AACGAATAGTTAAATTCACGGCATCTGGATTCCTAATCCTTTTCCGAAATGGCAGGTGTGAGT GCCTGTATAAAATATTCTATGTTTACCTTCAACTTCTTGTTCTGGCTATGTGGTATCTTGATCC TAGCATTAGCAATATGGGTACGAGTAAGCAATGACTCTCAAGCAATTTTTGGTTCTGAAGATG TAGGCTCTAGCTCCTACGTTGCTGTGGACATATTGATTGCTGTAGGTGCCATCATCATGATT CTGGGCTTCCTGGGATGCTGCGGTGCTATAAACGACAGTCGCTGAATGCTTCATGTACGTAA TATCCTAGGCTCGCTTCTGCTCCTGCTCCTGCAGGTGCGAGACAGGTATCCTAGGACCTGA AAACAAATCTAAGTCTGATCGCATTGTGAATGAAACTCTCTATGAAACGACAACGCTCTGAAG CGCCACAGGGGACAGTGACAACCAATTCCAGGAACGCCATACACTGAGTCACCAAGGACAC CCATCCCAAATACAGAAAAACTACCTACGCCACACCACCGCCAAGCCAAAGCACGACAACG GCCAACACCCACAGACAGCAACCGGCGACAAACACTGGAGAACAAGAGCACACGCAACAA GAAAAAACGCGCCCAGAAAATGGCCCAGAACAGCGAACCCACGAAACAGAACAAAGACACA **NNNN** >1209

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>1215 NNAATNCACCGNGGTGGCGGCCGCTCTAGAACTAGTGGATCCCCCGGGCTGCAGG CTGTAGTGCTATTCCCTAATGAGCAACTAAGAGAAGACACAACAATAAACCATGGAAGTGTT GGGAGGCCATGGAAATGATTTAGAGGTATAAAATATTCCCAAGTTTTTATTATAAATTTTTATT CATAGGTTAAAACATATAAGCATAAGTGATTGTACAGGTGTGACTCCCTTTTCTAGGAGAAA AATAGCTTTATTTGAAAACTCCAAAAGCTACTTAATCTTACCAGAGGTTTTTAATAGGGGAACT GGGTTTACTTACAATGAAAGCATATTTTCATTCTGCTATAGAAAAACATATCCCTGCTCATTCA GTAAATCTAAGATTGGAATGCTTTCTAGAACTATGCAATATTTGAATAATTTCTAGAAATGTCT AAGAAACAACCTTTTTTATTTTAAATCATCACTTACAAACGTAGTCTGAGACTGCAAACTAGTT TTCACTTGACTAATCCATCATTATAGATTAGTTACCATTTGCTCTATATAATCTATTGAAGAAA CTATTGTTATTCATATTTTGATTAATTTTACTAGCAACAAATTTTTATTTTAGTAGCATTGCATTT **ACCTTAAATATGTAAAAATGAAGTTGTAACAGGATCAAATATGGAAATGGCAATGGTAACTCT** GCCTAGAACATAGTTGAATGTCCTTGGTTGTCGGTAAGATGCAAAGATCTATACAAATTTTAT CATAGGTCAAAATTATTTCTAAATATACAAACAGTTTCAACTATTTCTTCCTCCCTAAAACTAA AACCAAACCAAACCAAATGAAGAAACCTAAACTTCTTTTCATCTAATAGTTATACCCAACTA GATAATAGTAGCTTCTAGACATCAATAAAAAGATTTCATTTTAACTGTCTTTTTAATTTGTAAAA TATATGAGTATGGAATTTTGTATCTAACTTGAAATTTCAGATGTTTTAATAATCCAAATACGTT CTTCTTTAGCATGTCAAAGTACTAATAGTTAAAAAATTTCTTTAGATCTAAGCATATACATTACT TGACTTTTTCAAAAGTATCAAAAAATTGATAGCTGCAGAAATGCCATTATTTGATTTTCTAAAA AACATTGATTCATTCTTAAATGTGTATTCTTTAAAAAATAGTAAATACCTCAAGAGTGACAGAA AACTTTCCTTTTCTGTTCTGTAATGCTAATTTAAACTTTGAGTCTTAGTTTACATGGTCATAGG **GGTTAAATAAAATGTATAACTGTACAATTAATTGTGTTCTTGTGACCTGATGATTTTTTGAAAA** TTTGCTTTTCTCTTTAAGAAATTTAAGTTTTCAAGGGCCGTATTAGTTATCTAAATATTTTGGG CTAATGTTGACTTATAAATAAATAAAAATTTAGAAAATATATTCATGATGACAATTTTGTTACTTA CACTGCCTATTCTTTATTTCTTTTTTAGTTCAAAGGTGAAATTTTGACCTTTGTATTAACAAAG CCTCAAGAAAAGAGAAATTCTGCCTTTTAAACATTGGTTTTCCTTGCATTTTATGGTGGTGTG **ATTTTGCCTCAGCAATAATAAAACATAAAATATGTTGTTGCATCAAGTTCAGTTTGTCTGCTGA** GATTATTTTAAGAACCAGGTTGAAGCCTCTATGCCTAAAAAAGCGTTTATTGTCTGGATACA TATAAAGCAAGATATATGGCTACAAATAAGTCTTGCAACCAAAATTGGTATATTAAAATTTACT GCACACTTTGAGATTGCTGCCATTTTTTGGTGCTTTTTGGACCTCGTCATAAAGGGATGTATC GTATATTAGGGAAAATTACTCAAGTTACACATTCTACATTAACTGCGCTGTATTATCTACAGGT ACAATCAATGGACCAATAGTTCCTAAATTAGTAATAAGGCTTACCTTACAAAAGTAATGAAATA ACACTGATATTTCTCTTTCAAAGGCTAACAGCAATTCTTGGTCCTGAGCTATTCAGTTCATAC **AATAACTACTGTACATGCTACAACATCTGAATATTAATGGTTTTGCTGCAGATTCTGGGTATG** AGGATTAGCTTGAAAGCAATACATTTGCTAACATGAATCATGACTCACATTATCCCCGTGTGC TTTACTACCTGTATATGAATGCAAATGTTGTTACAGAAAATATGCTTGAAATGTCAATACAGTG 907

Table 4

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NNACAATGTTAAATATCTGACTTTTCTATGATTTGGCTTTTCTGCCTTGAGTAACTATT
TAAATATCTGCGTGATCTTCTTTTATTTGGGCTACTTCTAGAACAAAACAGAGGTATTTACAAC
AAACCACTTCCCACAGGGCCTTTGAACCGTTTACCTAAGTCAAGTGTAATGAAAAACATAACC
AAATGCACCATGGGGTTTATTGTTAGATAATAAAAGGCTTAAAAAGCCCCTAGACCCTAAAGA
TGCCTGGGATGGATGATTGATGCTCATATGCTACTTGAGCATGTA
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Table 4

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ACTCCATAATATAATCTTTTAAATGGGCAACTTCTAAATATTGATACAACCATTAATAA TAATGCTTATAGGGTAAAAGAAAATTTTTGAAGCACTGAATTCAGTAACCTGGGTCATGGTCC AATTTTGCTCACTACTTCATATCTTTTATGTAGATTATTCCTATAAACATGTTCCCTAAATTCCA CATCAGTTTGTAAAGTCAATGGATTAAATTATTCAAATGTAGCTATTTAACGGTCAGTAACAAT GCCTAGAAACCTATTTATTCATCTGTAATATTAAAAAGCTGAATTTGATGATCTTGAAAAATCC TTTCCAGATTTACAACNNNNN

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>1233

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AATTTTGCTCACTACTTCATATCTTTTATGTAGATTATTCCTATAAACATGTTCCCTAAATTCCA
CATCAGTTTGTAAAGTCAATGGATTAAATTATTCAAATGTAGCTATTTAACGGTCAGTAACAAT
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ATAATAGAATTGGTTTCTATAAACCATTTATAGTATTCAACTTTTATAGTATTTACAAAC
ATAATTAAATACTATCATTTAATATGCCTGATACTAACATATTTAATATATTTTAGCATGGTTT
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Table 4

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Table 4

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>1284

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>1285

>1286 >1287

WO 01/42467

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>1295

PCT/US00/33312 WO 01/42467 920

Table 4

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WO 01/42467 PCT/US00/33312

Table 4

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Table 4

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>1311

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Table 4

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931 **Table 4**

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CAGAATGAAAAGCTAAAGACACCGAGTACTCCTGTGGCTTGCAGCACTCCTGCTCAGTTGAA CACAGGCAAAGGATGATAGCCAGAATGCCATAGATCACAAAATTGAGAGTGATACAGAGGAA ACTCAAGACACAAGTGTAGATCATAATGAGACCGGAAACACAGGAGAGTCTTCGGTGGAAG AAAATGAAAAACAGCAAAATGCCTCTGAAAGCAAACTGGAATTGAGAAATAATTCAAATACTT GTAATATAGAGAATGAGCTTGAAGACTCTAGGAAGACTACAGCATGTACAGAATTGAGAGAC AAGATTGCTTGTAATGGAGATGCTTCTAGCTCTCAGATAATACATATTTCTGATGAAAATGAA GGAAAAGAAATGTGTGTTCTGCGAATGACTCGAGCTAGACGTTCCCAGGTAGAACAGCAGC AGCTCATCACTGTTGAAAAGGCTTTGGCAATTCTTTCTCAGCCTACACCCTCACTTGTTGTGG TCAGTTGGAAAATTTGTATGCAGTAATCAGCCAATGTATTTATCGGCATCGCAAGGACCATGA TAAAACATCACTTATTCAGAAAATGGAGCAAGAGGTAGAAAACTTCAGTTGTTCCAGATGATG ATGTCATGGTATCGAGTATTCTTTATATTCAGTTCCTATTTAAGTCATTTTTGTCATGTCCGCC TAATTGATGTAGTATGAAACCCTGCATCTTTAAGGAAAAGATTAAAATAGTAAAATAAAAGTAT TTAAACTTTCCTGATATTTATGTACATATTAAGATAAATGTCATGTGTAAGATAACTGATAAATA TTGGAACTTTGCTAGAACAAGACCCTGTAGTAATAGTAATAGTTGAAGTTTGGCCAACTC TTAATAAAGTTATTTTGGTAACTAATGTTTTATGGCACTTAAGAATAATTAGCAGCGTTAAAATT TTGTTTGTATTAAGCACTTTTAATTTTATCCTTCCTAAAAATAGTTTATTGTATCTGACAAGAAA CTTACTTAACCATTGTGTCCTTCCCATCTTTTTTGTCATCTTTGTTTTCTTCAAATGCCCTCCT CCCATCTGCCTTGAGATTCCCTTGTCTTCACTTAAAAGCCAGAGTGCAAGTCATGATTTGCG GGAGGGCTCTTGAACCACTTCTGGCTGCACCACAATTCTGTACTTGAGTATCACAGTCATTG TTTTGAGACAAACATTTTTATAATTCTAATTTGGGTTAATAAAGATTTTAAATATTTCTTGGTT **TACTTTTGTAATTATACACAACAACAATGTATTAATAACTACCTTGTTAAACACCTTTTTAATAGC** ACAAGGTTTTTATATTTGCAAGCTGTTGATATCTTTCTAAAACTGTTTAGGTTATAGTCTATTG **ATACTTTTTATATACAATTTTATAAATATAAATATTATAATTTTATATTAATGGTACCAAAAATAC** ATTTCTTAAGGTTAAAAGCATGCACTTCCATGCATACTTGCTTTTGGGGAGAGTGGGGAGAA GACATTCTAATAATCAGTTTGTGAAATAGCTTCTGTTGGAAACCTTTTGAGGGGGAATAAGGAA TGGTCATCTAAAATGAGAGATTCTGGATTTTAATGCAGTTCAAAGTTGAGCTGTATTTTTGTT GTTGATTTATCTGGATTTTTTTTAAAGCCTTCTAAAACCCAGTGAATTCAATACCTTAATTAGT **ACATACTATCTTATGTAATGCATAAAGCAATGCCAGTCACTGAGAACATTTAAATATTTTATA** TTCCTGGAGATACACATTCTCATTTTTGTTGGTTTATTATAAATTATTCTTCTAGATGCATCTTT TATAACTAGGATTTCATTTTGTGTGTATAGCTTATGTAATAAATTTTAAAGGTGAAAACTCTCT TAAATITGTTTCTATTTCTTAAGTATTTTAAAACATAGCAAAGATAATTCTGTGCAAAAGAAGT GTAAAGTCTGTTCTTTCATATATTACTGTGAAAAATTTAAAGTGCTGTTGACACTGGAATGTTT **TTATATGGTANNNN**

NNGTGCGATCTCGGTTACGTGCGTTTTCTCGGAATTTTATTTCCGCTCCCTTATTTG GGGGNCCCGCGCGATTTCCCCACCGTGGGGACCAAAAAAACTTGGGTCCAAGGAGAACC **AAAGTACAACCATAGAGGATGGTCTTACAGCAGGCAGTATCCTGTTTGAGGAAAGCAAGAAT** ATACTAAGGAACCAACAATCTTCCTGTTTAAAAAACCACATGGCACAGAGATTCTGAACTAAA GTGCTGCACTCAAATGATGGGAAGTCCGGCCCCAGTACACAGGGGCTTGACTTTTTCAACTT CGTTTCCTTTGTTGGAGTCAAAAAGAACCACTTGTGGTTCTAAAAGGTGTGAAGGTGATTTAA TTCCATGACATCAAGACTTTGCTAAAGACATGAAGCCACGGGTGCCAGAAGCTACTGCGATG CCCCGGGAGTTAGCCCCCTGGTAATAGCTGTAAACTTCCAATTTCTAGCCATACGCTCAGCT CATCCATGCCTCAGAAGTGCATCTGGAGAGAACAGGTTTCTAAGCATAAAAGATGAAAGAGC **AGTTGGACTTTTTAAAAATTCAGCAAAGTGGTTCCCTCTCTTAGGGACAGTCAAAACCAAGTC ACTTAGGTAGTACCAAAATAAATAAGGAAAAGCTTAGCTTTAGAAACAGTGCAACACTGGTCT** GCTGTTCCAGTGGTAAGCTATGTCCCAGGAATCAGTTTAAAAGCACGACAGTGGATGCTGG **GTCCATATCACACACTTGCTGTGAACAGGAAACTCCTGTGACCACACATGAGGCCACTGG** AGACGCATATGAGTAAGGGCACTGACGGACTCATGATTTCTTCTTACCAGATGCTTTCCTGT TCTTTAAGAGTTTAAAATCATCAGAAAGGAAAAACAAACTCTATATTGTTCAGCATGCAATACA TACCACGCTAGGGCTGGCTCAATTGAAAGTGGGCAAAAGCTTACAAATACTAAAAAGAAGTG

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Table 4

CTGCCGCGCAGTGTGGAGGCCACTGTTTGGAAATAAATCTTCCTAACACTACGACTTTTCAT GTTTTGGAGTGGACTTTTAAAAAAGTTTTCCAACCACAATGGAAACAGGTTGAACCACACTGC GCCTACACATCCATCCATACGTCAGCCATTATAATCAGATTCTCACTGGGGGAGGCATTTTC TTCCCAAAGGAGCTGTATGCAGTCATCACCCGGAACTAATGGGAAAGTGTTCTTAAGCAGCA **AGTGACTCTGGACCACCTCTCTCACACACTGACTCTTCCACAGCATCTTCACCTGCTTCTGTT** TCACTTGAATTCATACAGTAGGCCACCATTTTATAACAGGTCTTAGTGTAAATTCTTCCAGAC CAAGTCTGAGATAGTCTTGGTTGTAAAGCAAGACCGTCACCCCTTCTCCCAAAGCCAACATT ATAAAAAGATTCCATTGTCTCAAACACAAATGTTCCAGTCTTGAGCACTTCCCAGCCATGGTG ACTCGGGCATATCCTGGCAGTTGGTGGATTTTGCCCTGTAACACAATCCTTGTGGATATGAT TCAAAGGTGACTTTAATTCAGAGAATGTGTTTTCCTTTCTGTTTTAAAAATATTTGAATTAAGT GATGGAAATTCTTTTGTTAAACATCAAAAGCTTTCTCCTTGAAAAGATGCTTGGTGTATCTGA AAGTCAGGTGGGACATTTGGTGCATTCAGAAGGTCAAATCATTCCTGACCTCTCCTCTTAGG ACCCAGCATTAACTGCTGCGATACTCAAGGCTTCCTTAAAGGATCACAGCACTGGCGCCTAG TTTTACTGTCCAGCAACTTTATTAGTTGTGCTAGCTGAGAATTGGACCATAGAGGCCTTTGAC CCTGCCCGTCTNTNTCAAACNAANNNCNNCCCCCCNNNGNTTCNNCCAACAANNNNNNNNN NNNNNN

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>1381

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TGTATTTTGTATTTTAAGAGTCTCATGCTCTACCGTTGGAACTAGCCAGATGGCCATTATTTT GTATTTTAAATACATAAATAGGATTGAATCAACTAGAAATGAATCTATATGTTCTGTATATATG AATGACTATCTTGTTTTTGCTACTTCTTTTGACTGCTTAATTTTATTATTTTCATCTTTATTGATC AAATTTGAAAATTCACAATGTAATACTACTACTATGCAGAATTTTCTAAACAGTTCAGT ATTTTTGACTTTTAAAAACACCCCACAGTGTTAATAGCCACAGAATATTGAACATCAATAGGAT TTTTAATGCTATATTGTTATAGGCAGTTTATTCATTTTTCTTTGTATATGAAGATGATAAGTATC ATATTGCCTAAGTTTGAGTGATCATGGTTAATTAATTGGCTTAAATAGTACTCAAATTTGTGTG GTCGTATATTGTATTTTATCAAGGACTAATTCTTCCACCATACCCAAAGCATCTAGGAGACAC TCTGTCATTTACATTTACAAATAATGGATGCAGAGAAATATAATCAATTCTTGATTGTCCTGGA TTACATTATAGGCAACTATCCCTTCTCAAAACATAACTTGATTTATGTTTTGTTTTATTTTTTAG TAGGGAACCAAAAGCTTTTGGTCTGAAAAACTCAGGTGCTGATTTGTCAGGTCAGCCTGAGA GAGTGCAGAGATACTGAGGTCAGCTTAGGGAGAGAATTGTATGGAAGGGTGGAAATGAGG GTTCAGTCTTAACTATGTGTCCAAGACCTTATCCTGAGAGTCTTCATGGAATAATCTAGAAAG GGCTGTAGAAGCAATCAAACTCTAAACTGCGCTCTAGACTTTGTCAATACTTTGCTTCGTAAG GCAGGGAATAGGCTAGTGGAAGAAAAACATACTTGAGATGGTTACCCATTGGTCCCTGCAG GCATCTGGGCCACCCTTTTCCTGTAGGTATATATTCTGCCGTTGTGAAACAACTATATTATTA GATGTCAGCAAACTATAATCAGAAATAATTTTTAATTATAGTGGCAACTTGATTAATGAAGCTC TCATATACAACCTCACAAACAAAAAAGAAACTTTATTACGTGAAATAGTAGCATATGTCATTGG GTTTAAAAGCAACATGCCTGCAAAACATATGATAAAAAATACCTCTGTAAGGGTTTTTATTTGT CCACCTTCGATGGAAGGTAAACATGGCTGATCCCAGCCAAGATGAAACAATAGCCCTTTGTC TCCTCAGAACAACCTATCTCCAACTCTTTGTCCACTGTTCTTACCCCAATTAAAACAAGAAAG CATGTGCTAATCCTTTTTTAATTTTTATCAACCTGCCTTGGCCTCCTTTCACTGTACTCCATTA TTCCTTCTGTGATGTTCTACCTTCTTCACCTTTTGAGACCAGGGTGAGTTGGGAGCAGTTTG CCTACCTTCTTTAGAATCTGGGGCTTATCTTTTAGTACAAGCCATTGAATAAGCCTCTTCCTT GATATTTGTTGTAGCTTGTATATGAACATAATTTTCTTTAGAGGTAGTCACTGTTCTCTCCAGT ATGACCCAGGTTTCTTGACTCTGAGTAATGCACCTTCTATAACTATCTAAATTTCTACTGAAG CTTTTTGGATTATGAGTATGCTGACTTTTCACGATTGGCTGGTGCATGTTTAGACTTAAATGT CATATCCTTCATGTCTCAAAGCCAAAATAGTAACATCTCATCTCAGAACAGAGCTGTGACCAC ATGCCAATATATGTGTCACAAAGTCTACATATGTTACATTCCTTGGAAGTCTCCTTAAATGTTT CACAAAATGTCAACAAGCTTGTTTTGTTATTGATATTTCCGAGATTGGGCACATTTAAGACAG TAAACGGGAAAGGTGGTGAAGATGCTATAAGAAGATGCTGTATCTTGAGAATTGAAAAATGA TTAAAATTCATAACAGTATGTGCCCCTTCAGCGTTTTAATCTTATGAAGTGGTTAAGAGATAA GTCTTCGGAGTTGGACAAAAGGATTTGAATTTAGGTTCTGTGGATTATTATGGGTCCTTGATA **ACTCGTAAGGACTATATGAGACCATGTATATAGAATGTTTAACATAGTACCAGGCTTTACAAA CCCGGGACGNNNNNNNNNNN**

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NNNNCGTCCGAGTGCTGTTGCCGTGACTGTCTTCCTATTGGCGCCGTGCAGAG GCCCGCCGGGAGCCAGATTTTGTGGAAGTATAATACTTTGTCATTATGAGATGTCGTCTC TCGGTGCCTCCTTTGTGCAAATTAAATTTGATGACTTGCAGTTTTTTGAAAACTGCGGTGGAG GAAGTTTTGGGAGTGTTTATCGAGCCAAATGGATATCACAGGACAAGGAGGTGGCTGTAAA GAAGCTCCTCAAAATAGAGAAAGAGGCAGAAATACTCAGTGTCCTCAGTCACAGAAACATCA TCCAGTTTTATGGAGTAATTCTTGAACCTCCCAACTATGGCATTGTCACAGAATATGCTTCTC TGGGATCACTCTATGATTACATTAACAGTAACAGAAGTGAGGAGATGGATATGGATCACATTA TGACCTGGGCCACTGATGTAGCCAAAGGAATGCATTATTTACATATGGAGGCTCCTGTCAAG GTGATTCACAGAGACCTCAAGTCAAGAAACGTTGTTATAGCTGCTGATGGAGTATTGAAGAT CCCATGGATGGCTCCAGAAGTTATCCAGAGTCTCCCTGTGTCAGAAACTTGTGACACATATT CCTATGGTGTGTTCTCTGGGAGATGCTAACAAGGGGGGGCCCCCTTAAAGGTTTGGAAGG ATTACAAGTAGCTTGGCTTGTAGTGGAAAAAAACGAGAGATTAACCATTCCAAGCAGTTGCC CCAGAAGTTTTGCTGAACTGTTACATCAGTGTTGGGAAGCTGATGCCAAGAAACGGCCATCA TTCAAGCAAATCATTTCAATCCTGGAGTCCATGTCAAATGACACGAGCCTTCCTGACAAGTGT AACTCATTCCTACACAACAAGGCGGAGTGGAGGTGCGAAATTGAGGCAACTCTTGAGAGGC TAAAGAAACTAGAGCGTGATCTCAGCTTTAAGGAGCAGGAGCTTAAAGAACGAGAAAGACGT TTAAAGATGTGGGAGCAAAAGCTGACAGAGCAGTCCAACACCCCGCTGCTTCCTTTG AGATTGGTGCATGGACGGAAGACGATGTGTTGTTGGGTTCAGCAGCTCGTCAGAAAAGG TGACTCTTCAGCAGAGATGAGTGTATATGCAAGCTTGTTTAAAGAAAACAACATTACAGGGAA GCGGCTGCTGCTGGAGGAAGAAGACCTGAAAGACATGGGCATTGTCTCCAAGGGGCA TATCATTCACTTCAAGTCAGCCATTGAGAAATTAACCCATGATTACATAAATTTGTTTCACTTC CCACCACTAATTAAGGACTCAGGAGGTGAACCTGAAGAAAATGAGGAAAAAATAGTGAACCT GGAACTGGTTTTTGGTTTTCACTTGAAACCAGGAACTGGCCCACAGGATTGTAAGTGGAAAA TGTATATGGAGATGGATGGGGATGAAATTGCAATAACCTACATAAAAGATGTGACATTCAACA CTAACCTACCTGATGCGGAGATTTTAAAGATGACAAAGCCACCATTTGTAATGGAGAAGTGG **ATTGTAGGAATAGCAAAAAGTCAGACTGTGGAGTGCACTGTCACATATGAGAGTGATGTTAG AACTCCAAAAAGCACTAAACATGTCCATTTGATTCAGTGGAGTAGAACAAAACCTCAGGATG AAGTGAAAGCAGTCCAACTTGCCATTCAGACATTATTCACCAATTCAGATGGCAACCCTGGA** AGCAGGTCCGACTCAAGTGCTGATTGCCAGTGGTTAGATACTCTGAGGATGCGGCAGATTG CATCCAACACTTCTTTACAGCGTTCCCAGAGCAATCCTATTCTGGGGTCACCGTTCTTCTCAC **ACTITIGATIGGCCAGGATTCCTACGCTGCTGCTGTGAGACGGCCCCAGGTGCCCATTAAGTA** TCAACAGATTACACCTGTGAACCAGTCCAGAAGCTCGTCTCCTACTCAGTATGGACTGACCA **AAAACTTCTCTTCCCTACATCTCAACTCTAGGGACAGTGGCTTTTCCAGTGGCAATACTGACA** CCTCTTCAGAGAGGGGTCGATACTCAGACAGAAGCAGGAACAAATATGGACGTGGTAGTAT **ATCACTCAATTCTTCTCCTAGAGGAAGATACAGTGGAAAGAGTCAGCATTCCACTCCTTCAA** CCTGACTTCAAGAGAGCCCCAGGGACCTCCACCAACCCAACACCATACCAGGGATGCCTT TGCACCCTGAGACTGACTCAAGAGCCAGTGAAGAGGACAGCAAAGTCAGCGAAGGGGGCT **GGACAAAAGTGGAATACCGGAAAAAGCCCCACAGGCCATCTCCCGCCAAAACCAATAAAGA** GAGAGCCAGAGGGGACCACCGTGGATGGAGAAACTTTTGATGAATTGAACTACATAGCTTTT AGATTGAATTAACGAAAAGACAACACTTCCAGTTTTTGGATTGGGAAATACCTTCTAATTGAG **ACTATAGCCAAACCAGGGCCAAAATTATGGATATTGGTCACCCAGTGATCATAACTAGGCTT** GAAAATCACTACACATATTTTCTGCCTTGAGTGAACATTTTTAGAGGAAAGGTTATGCCATCT CAACAAAAAATCAAATTTTTAGGAAAAGATAAGATGAATGTTACTGATTTTTCCTTTTGGCTG AGGCTGCAATATGGCCTGGCAAGGCACTGTTACTGATCTTGTCTTTAACATTTTTGATATTTTG TTCATCATAATTTTTGCATTTATTTTTTAAATATTGCATTAAAATATCATTTAGCTTGATTATCG

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Table 4

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NGTACTCGGTGTGTAGTATTTAGTTCTGTGACTGTGTGGTCGTCTGCTCAGATAGTG TGCGATGTCGAGTGGCGATCGCTTAGTGGGTTTCTCGCGCTGAGGGATGTATGGGCGTC **GTGTCAGTATGTGATCATGGACTGTTGATGGTGGTTGACGNTACAACAGCTGGNCGGGT** ATATCGATTGCTGGCTCCCTGGGTGAGACCGGGAATGCCCTCAAGCCCCATGGGGTTGTTC GGCCCGGGTTCCCGGGCACGCGGGCCCAGGGTTCACCACCCAGGGCCCGGCCCCCAAC TTTTTTTTTTAAAGGTTTCAGAAATTATTTATTGTAGTAGTACTTACACGTAAGATTTTAGCCT ATGGTCATTTTATAAAGATGACTGTTAGGATTTAATTCACATTTAAAGAAAATGAGATTCGTTA TATTATGGTGTTTTTTATGACCTATAAAATACTTACCCCTACAAATTTCCATAAATGTAGTGGT TATTTAGGAAAAAGTTTTATGTATTAGGGTAAAGTGGTAGAAGTTAACCTAGAATCTAATAATC AACGTGGAAGCAATGAGGTGGGCAGATCGCTTGAGCCTAGGCATATCGCCGGACGCGTGG **GTCGN**

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>1407

GAGCATCACCCACATCCCACTCAGTGCCTGATATTCGGATGGTGGCATACTCTGCCCCAGG AGACTGCCTGAAGGCACGGGGCAATGGGTGCCAATTTTAGCTCTCAGCAGGTTAGTCAACC AGACAAACTGGTGGGCTAAAGTCCAGAAATTCTTTCCAGGTTTTCTGCTCATTGGCTGAGCA CATACAAACTGTCATAAGCCTGTAAAATTTAAGGGGAGTTGGGGTGGGGCGTAAGAGCAAAA GGACAGCAGGAGAAAATTACGGGTCACCCAAGTTTTTCCTGGGCTAGTGGCTCTGGA TATAGATTTAAAGAGAGGTCAGAGTAAATGGACTCCAGGTTTCTTATCAAAGAAAACTATCCC TCAATGAGGAGCTGAGATGTGCCATGCAAGAGAGTTCTTCCTGCAGAGGCACAGGAGAAAG GGCAGCTGACTCTCATGTGGAGAGAGTGGCGAGGAAGGTCTTCTAGTACCATGAAGTAA AAGACTAAAAAGCCATCAGGAACCCTCAAAGCCAAATTCTATCTGCACACTGGCTCTACAAA GGAGGCAATACATTTTTATTTTCAGAGGGATGAGGTGGGAAGAACAGCCATGATCTAGTAA GAAAAAAGAAAAAAAAGGAAAAGAAAACAAAAATTTAAAGTGAGACGTTTGCTGCTCTGGTC TCAATTTAAGAATCACAGTCAGCTTGTTACTTTTATTTTGGAAGAAAAGATGTAAAAGTTTCTT TCAATCATTCAGAAGGCAAGTGTAGCCACTTATAAAAACAGAATGGCAGGAACAAACTAGGA TGACTGTTCCAGAAGAGGGCTGTGAAAAGGACATGGTGGACCGAAGTCTGTTAGTCAAGTA CGGCCTGCCTCGCTGAAGCCACCACCACCCCCTTGGCTGGATGCTGGAAGAGTCCT CCATGTGTACGGACTCAGGATGACAGGGCAGCCTCCTTCTGTGGTTGCTGGGCTTGTGAAC GTTGCAGTATCTTTTGGCTTTCCACGTCTCTAAAATGTTTTTCAACTATTTTGCGTACATGGCT CAGTGCACTCCCCTCTTTGCCTTTACAGTTTTCCACTTGATATGGGGGTGTAATAACAACTTC TTCCATGACTACGATGTTTTTTCTTGCCATTTACAGTCTTTAATGGTCTTGTGAATGGTCTGG **AAGAGCTGCTGGCCCTCTAGAGAGACACCAGCACTGATTGCATAGGCCTGGCTCAGCTGGC GGTCGACN**

>1408 ACGCGTCCGCGCTAACCAGTCCCCCAGTTCAGTAGACTGGAGCCCAGAGCCTGCTT GACCAGATCTCCAGCAGTTGGAAAAATGCATTGATGATGCTTTAAGAAAAAATGATTTCAAAC CTTTGAAAACACTTTTGCAAATTGATATTTGTGAAGATGTGAAGATTAAATGCAGCAAACAGT TTTTCCACAGGTGGACAACCTTATATGCAGGGAACTTAATAAAGAGGATATCCACAATGTTT CAGCCATTTTGGTTTCTGTTGGAAGATGTGGCAAAAATATCAGTGTATTGGGGCAAGCTGGA CTTCTAACGATGATAAAACAAGGACTAATACAAAAGATGGTTGCCTGGTTTGAAAAATCCAAG GACATTATTCAGAGTCAAGGAAATTCAAAAGATGAAGCTGTTCTAAATATGATAGAAGACTTA GTTGATCTTCTGCTGGTCATACATGATGTCAGTGATGAAGGTAAAAAAACAAGTAGTGGAAAG TTTCGTACCTCGCATTTGTTCCCTGGTTATTGACTCAAGAGTGAATATTTGTATTCAGCAAGA GATTATAAAAAAAATGATGCTATGCTTGACAAAATGCCTCAAGATGCCCGGAAAATACTCTC TAACCAAGAAATGTTAATTCTCATGAGTAGTATGGGAGAAAGGATTTTAGATGCTGGAGATTA TGACTTACAGGTAGGCATTGTAGAAGCTTTGTGTAGAATGACCACAGAAAAACAAAGACAAG AACTGGCACATCAGTGGTTTTCAATGGATTTTATTGCTAAGGCATTTAAAAGAATTAAGGACT CTGAATTTGAAACAGATTGCAGGATATTTCTCAACCTTGTAAATGGCATGCTTGGAGACAAAA

946

Table 4

GAAGGGTCTTTACATTTCCTTGTTTATCAGCATTTCTTGATAAATATGAGCTGCAAATACCATC AGATGAAAAACTTGAGGAATTTTGGATTGATTTTAATCTTGGGAGTCAGACTCTCTCATTCTA CATTGCTGGAGATAATGATGATCATCAATGGGAAGCAGTTACTGTGCCAGAGGAAAAAGTAC AAATATACAGCATTGAAGTGTGAGAATCAAAGAAGCTACTGACAATAATTCTGAAAAATACAG TAAAAATTAGCAAAAGAGAAGGGAAAGAATTGCTTTTGTATTTTGACGCATCACTAGAAATCA CTAATGTAACTCAAAAAATTTTTGGTGCAACTAAACATAGGGAATCTATCAGAAAACAAGGTA TTTCAGTTGCCAAAACGTCGCTGCATATACTTTTTGACGCAAGTGGATCACAGATTCTAGTGC CAGAAAGTCAAATCTCACCAGTCGGAGAAGAGCTCGTTAGTTTAAAGGAAAAATCAAAGTCC CCAAAGGAATTTGCTAAACCTTCAAAATATATCAAAAACAGTGACAAAGGGAATAGAAATAAT AGTCAGCTTGAGAAAACTACTCCTAGCAAAAGAAAATGTCTGAAGCATCAATGATTGTTTCT GGTGCAGATAGATACACTATGAGAAGTCCAGTGCTTTTCAGCAACACATCAATACCACCACG AAGAAGAAGAATTAAACCACCACTGCAAATGACGAGCTCTGCAGAGAAACCTAGTGTTTCTC CATAGAAGAGATAATATAGACAAACATATCAAAACTGCTAAGTGTGTAGAAAACACAGAAAAAT AAGAATGTTGAATTCCCAAACCAAAATTTTAGTGAACTCCAGGATGTTATACCAGATTCACAG GCAGCGGAAAAAAGAGATCATACTATATTACCTGGTGTTTTAGACAACATCTGTGGAAATAAA ATACACAGCAAATGGGCATGTTGGACACCTGTAACAACATTGAACTATGTAATAACCAAAGA <u>CAAAAATCATCCTCTTCAATATCTGATCATAATTCTGAAGGAACAGGAAAAGTGAAATATAAG</u> AAAGAACAAACCGACCATATCAAAATAGATAAAGCAGAAGTAGAAGTTTGCAGGAAACACAA TCAGCAACAAATCATCCTAAATATTCAGGGCAGAAAAATACTGAAAATGCCAAGCAGAGTG ATTGGCCTGTTGAATCTGAAACTACTTTTAAATCGGTTCTCCTAAATAAGACAATTGAAGAAT CGCTGATATATAGGAAGAAATACATATTGTCAAAAGATGTGAATACTGCTACTTGCGATAAAA CTTAATTCCTGGGATTCGAAACAAAAAAAATGAGAGAAAAGTCAAAAGGGAAAGAATTTACC AATGTAGCAGAATCCTTGATAAGCCAAATCAATAAAAGATACAAAACAAAAGATGACATCAAG CTCAGTAAGGAAAAAGTTCAGAAAAAAAGCTACAGAAAACTGAAGACTACCTTTGTTAATGTT **ACTTCTGAATGCCCAGTGAATGATGTTTACAATTTTAATTTGAATGGAGCTGATGACCCTATC** ATAAAACTTGGAATCCAAGAGTTTCAAGCTACAGCTAAAGAAGCTTGTGCGGATAGGTCAAT TAGATTGGTAGGTCCAAGGAATCATGATGAACTTAAATCTTCTGTCAAAACAAAAGATAAAAA **AATTATAACAAATCATCAAAAGAAAAATCTGTTTAGTGATACTGAAACAGAGTACAGATGTGA** TGACAGCAAGACTGATATTAGCTGGCTAAGAGAACCGAAATCAAAACCACAGCTAATAGACT **ATAGCAGAAATAAAAATGTGAAGAATCATAAAAGTGGAAAATCAAGATCATCCTTGGAAAAGG** GACAGCCAAGCTCTAAAATGACACCCAGTAAAAATATCACAAAAAAGATGGACAAGACAATT AAAGGAGGAGAATATCCATTCCAGAATGAAAACGGTAAAGCTACCAAAGAAACAACAGAAAG TCTTCTGTGCTGAAACAGAAAAGGAACTATCAAAACAATGGAAAAACTCATCTCTACTAAAAAG ATGCTATACGAGATAATTGCCTTGACTTATCTCCCAGATCTTTATCTGGCAGTCCATCATCTA TAGAAGTAACGAGATGTATAGAGAAAATAACAGAAAAGGATTTTACTCAGGATTATGACTGCA TAACAAAATCTATATCACCTTATCCAAAAACTTCATCACTTGAATCCTTAAATAGTAACAGTGG AGTTGGAGGTACAATAAAGTCACCCAAAAACAATGAGAAAAACTTCCTGTGTGCAAGTGAAA GTTGTTCACCAATTCCACGACCACTGTTTTTGCCCAGACATACTCCAACTAAGAGTAATACTA TTGTAAATAGAAAAAAATAAGTTCTCTGGTACTTACACAAGAAACACAAAAAACAGTAACAGCT **ATTCAGATGTAAGCAGTTATAGTTCAGAAGAACGGTTTATGGAAATTGAATCTCCACATATCA** ATGAAAATTATATACAAAGCAAAAGAGAGGAAAGTCATTTAGCATCTTCATTATCCAAGTCTA GTGAAGGAAGAGAAAACGTGGTTTGACATGCCCTGTGATGCTACTCATGTATCAGGCCC CACCCAACATCTTAGTCGCAAAAGAATATATATAGAAGATAATCTAAGTAATTCCAATGAAGT AGAAATGGAAGAAAGGAGAAAGGAGAGCAAACTTGCTTCCCAAAAAACTGTGTAAAATTG **AAGATGCAGATCATCATCACAAAATGTCTGAAAGTGTATCTTCATTATCAACAAATGACTT** TTCTATTCCTTGGGAGACCTGGCAAAATGAATTTGCAGGGATAGAGATGACTTATGAGACTT ACGAGAGGCTCAATTCAGAATTTAAGAGAAGGAATAATATCCGACATAAAATGTTGAGTTATT TTACTACGCAGTCTTGGAAAACAGCTCAGCAACATCTGAGAACAATGAATCATCAAAGTCAG GACTCTAGGATTAAAAAACTTGATAAATTCCAATTCATTATCATAGAGGAGCTGGAGAATTTT GAAAAAGATTCACAGTCTTTAAAAGATTTGGAAAAGGAATTTGTGGACTTTTGGGAAAAGATA

TTTCAGAAGTTCAGTGCATATCAAAAAAGCGAACAACAGAGGCTTCATCTTTTGAAAACTTCA TTGGCTAAAAGTGTCTTCTGTAATACTGATAGTGAAGAAACTGTTTTTACATCCGAGATGTGT TTGATGAAGAGATATGAAAGTGCTGCAAGACAGGCTTCTTAAGGACATGCTAGAAGAGGA GTGAAATCTAGTTTTTATCACCATACTTTATCTAATTATTATTCTCTGTATATAACTGAGGAAAT AAGAATAGTCCTACAAAGAGAAAAATATACATGTCACCGAAGCAAGTGTACCCTTTATAGGAA CCCTCAAATTAAAAAAAAATGTCTTTTAATGGATGAGGGGAACCACTATAACATGAGTCCAA GCCCAGAAGACTTCTGTCTATACAATATTTTTTTTAATTTTGGAGATAAAAGCTTTAAGAAAC TTTTTGAGTTAATTATACTCATAAAATGAGTTTCTTTAATAAATTAAAATTTATTGTGTAAAATGT ATTATTACATAAAATGTGTTTTTGAATCAATGCAGTTTGGGGGATGAATATAATTAAAATATGTT TAATAACTTAGAATTCAACTAATAAAAATTTAGCCACACTTACAAGGGGGAGGAAGTCCCTAG TTTAAAATGTATAACTGAGTGGTAGATCAGTACTTTCAGCACACTGTTGGAAACATTTATTCA GATATGGCTCTAATGTATTAGGAAGCACTAAATGGCCTAAAAAAGCTACTACATTGCCTAAAT ATGTTAATTCAATATAGAAGTCCTATTTCATAACCAGGCTGTTTGACAAATACTTTTAATCTAG TAGTCATTGTAATATCTTGCTAGATTAATTTATAAAAAATGAGTATACATTTGATTTGCTTTTAAT GAAGTTGAAATAAATGCTTATGTCACTTGAATAAATATAAATCATTATANNNN

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NNNNNNNNNNNAAAGGAAAAAGGAAGAAAATTGCAGAAGGAGGTTTCGCAGTGAATTTCAGTGGCACCATACCCACAGGCAGTTTCCTAGGGAGTTCCACCAGTTCCCAGAGCATGCTTCCCAGAAATTCTCTTGGCATCACCCTCCAGGTAGCTTCCAGAGAGTTCCACTAGCACACTAGAGGCCATCTTCCTTATAACGCCCAGAAAGTGTTGCAGGCACCCACAGGGTAA

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Table 4

- >1420
- >1421
- >1422
- >1423

- >1424
- >1425
- >1426
- >1427
- >1428

NNACCATATAGGTTGGACGACGGAGACACGTCATTCATGCGAACTTTCCCTTCACCCA AATGCAGAGCAAATGTTGCTCCCCAGAAGCCCACAAGGTAGCTGAAGCCATTTCTAGTTGACA GTCAAATTTTTATTTTTTTTTTTTTTTACATATAGCATAGTGCTGATGCTTAAAGATCCTGTTG ACTGAAATAAGTTGCAAGGAATATTAGTTCAGGGAAATATCAAAGTGTAAAAATATATGGGA TAGTGAGAAAGAAAAGCCATCCAACACCAGCACATTAGAAATTACTCAATCACTTCTGTCAT GTGAAAAAGGGATCAGCACCCACCCAGAGCAAACTCAAACTCTGAGTCTATTACCAGTTAA GTCAAGACTTGGCTTCTATTTTTGCAAAGTAATCAGTAACTGAGTCAGCTGTGAAATTCCTGGT TGCTCCTTGATCTTGTGTAACATTTATCCAATCATTTAGGCTGTTTGGGTTGAAGGAGGGTTAT TACAATAAGAACATCTTTGAGAGACTTTTTCAAGAAAATTGTTCATTGTTGGGGGGAAAAAAC CCCTCATTTGCCCACAGGAACTAAGGTTTGGTCTGTCAGCCAAAGGTATTGTTCATTATTTCAA ACTGGGAAAGTGTAGCTGGTGGGGGGCAGTTAGAAGTGGAGAGGGGAAAAGGTAGAGATCA ACATCCTTCACAGTGCTATATTACCTTGTCTGTGATATTATGGATCCTGGTTAGGAAAAGGATT CATACCACAACCAATCACGTCCGCCTATGCTGAGAAGTGTCCATTTCTTTAGGCTGAAAATAA GACTGTACTTTCATAAACAAATAGGAAAATGTGATCTATTGCTTCTTTTCTTGGTCCGTGCCCC TGCGTATGTGTCCAGAGGCCACTGATCCAGTCCAAGTGTATTTAGAAATTAGTTCAGTGGC TCACAAAGGTCTTAGAGGCCACTACTGCGCTGGGGAAATCCATTGAGCTTGGCTTGTTCTCTC TTGCTCTTGCCAATGTGCACTCTGCTTACATGCACACACTCCTTAGGAAGATGCCAGTTATCTC **TATTTTATGN**

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

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(54) Title: GENES, COMPOSITIONS, KITS, AND METHODS FOR IDENTIFICATION, ASSESSMENT, PREVENTION, AND THERAPY OF CERVICAL CANCER

International Application No PUS 00/33312

A. CLASSIFICATION OF SUBJECT MATTER
1PC 7 C12N15/12 C07K14/47 G01N33/68 C12Q1/68 C07K16/30 A61K31/7088 A61K31/7088 //A61P35/00 According to International Patent Classification (IPC) or to both national classification and IPC B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) IPC 7 C12N CO7K GO1N C12Q A61K Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal C. DOCUMENTS CONSIDERED TO BE RELEVANT Relevant to claim No. Citation of document, with indication, where appropriate, of the relevant passages Category ° 1,2 DATABASE EM HTG [Online] X EMBL: Accession number: AC009554, 30 August 1999 (1999-08-30) BIRREN, B. ET AL.: "Homo sapiens chromosome 15 clone RP11-16B9 map 15" XP002175250 nucleotides 60633 to 61509 1,2 DATABASE EM HUM [Online] Х EMBL: Accession number : AL132777 (ID: CNS01DTI), 2 November 1999 (1999-11-02) HEILIG, R. ET AL.: "Human chromosome 14 DNA sequence BAC R-307P22 of library RPCI-11" XP002175251 nucleotides 58075 to 58291 -/--Patent family members are listed in annex. Further documents are listed in the continuation of box C. Special categories of cited documents : "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the *A* document defining the general state of the art which is not considered to be of particular relevance invention "E" earlier document but published on or after the international filing date "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "Y" document of particular relevance; the claimed invention cannot be considered to involve an invertive step wher document is combined with one or more other such do ments, such combination being obvious to a person skilled in the art. "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the International filing date but later than the priority date claimed "&" document member of the same patent family Date of mailing of the international search report Date of the actual completion of the international search 27. 11. 01 20 August 2001 Authorized officer Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl. ANDRES S.M. Fax: (+31-70) 340-3016

International Application No
PCT/US 00/33312

C.(Continu	ation) DOCUMENTS CONSIDERED TO BE RELEVANT	101703 00733312		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.		
A	WO 98 09170 A (MATRITECH INC) 5 March 1998 (1998-03-05) the whole document	1-57		
A	WO 98 05967 A (HOLMES CHRISTOPHER HAROLD; PASCOE EDWARD WILLIAM (GB); MASON ROBER) 12 February 1998 (1998-02-12)			
A	NIELSEN H ET AL: "IDENTIFICATION OF PROKARYOTIC AND EUKARYOTIC SIGNAL PEPTIDES AND PREDICTION OF THEIR CLEAVAGE SITES" PROTEIN ENGINEERING, vol. 10, no. 1, 1997, pages 1-6, XP002072638 ISSN: 0269-2139 cited in the application			
T	WO 01 42792 A (MILLENNIUM PREDICTIVE MEDICINE) 14 June 2001 (2001-06-14)			
	·			

International application No. PCT/US 00/33312

B x I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)
This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:
1. X Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:
Although claims 47, 56 and 57 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).
Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)
This International Searching Authority found multiple inventions in this international application, as follows:
see additional sheet
As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. X No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.: 1-57 (all partially)
Remark on Protest The additional search fees were accompanied by the applicant's protest. No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

Invention 1 : Claims 1-57 (all partially)

Sequence 1 from Table 1 (and the related sequences in Tables 2 to 4), homologs or fragments thereof, vectors or cells containing it, polypeptides encoded thereby and antibodies binding thereto; Use of the nucleic acids or polypeptides in diagnostic, monitoring or therapeutic methods related to cervical cancer.

Inventions 2 to 1428 : Claims 1-57 (all partially)

As for subject 1, but concerning sequences 2 to 1428 from Table 1 (and the related sequences in Tables 2 to 4), respectively.

nformation on patent ramity members

International Application No
PGY/US 00/33312

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WO 0142792	14-06-2001	AU 2074101 A WO 0142792 A2	18-06-2001 14-06-2001